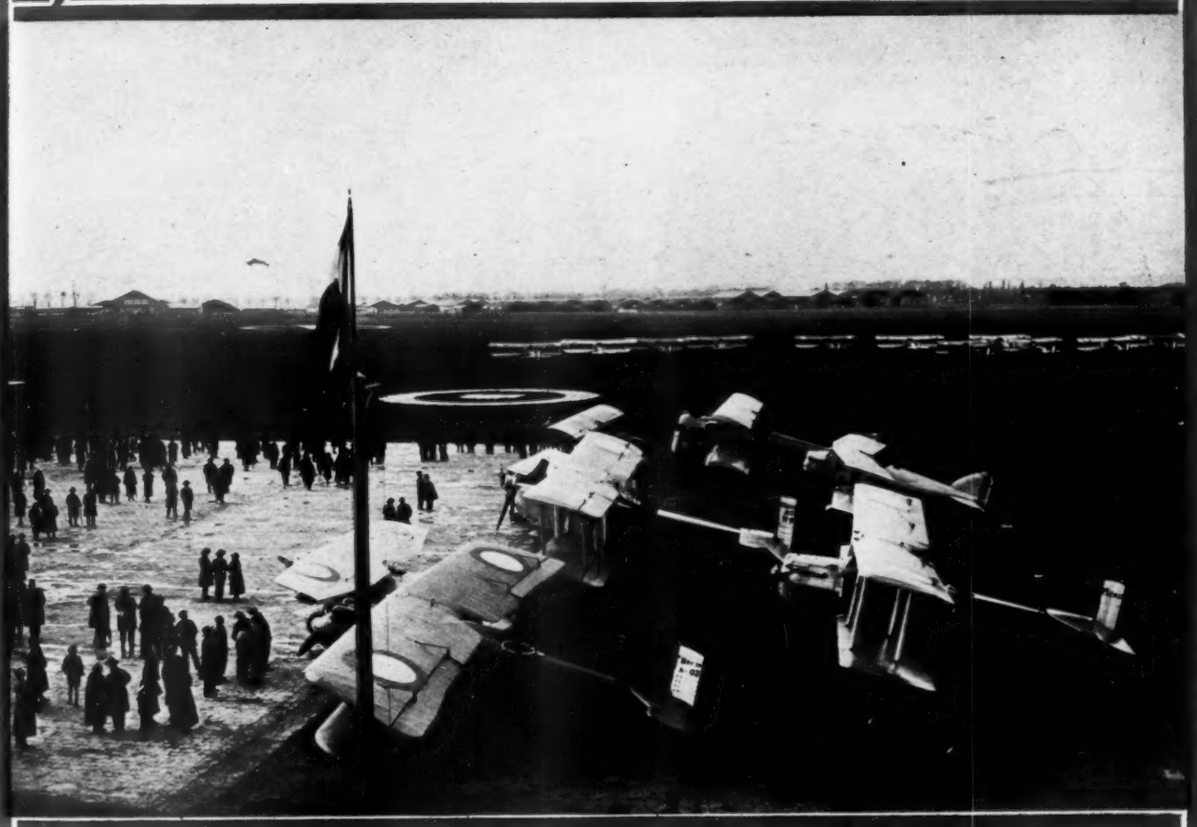
AVIATION

The Oldest American Aeronautical Magazine

MAY 12, 1924 Issued Weekly PRICE 10 CENTS



The Rumanian Sovereigns inspect France's newest aircraft at Le Bourget, near Paris

VOLUME XVI

NUMBER 19

SPECIAL FEATURES

TO FLY OR NOT TO FLY

UNFAIR PUBLISHING COMPETITION

IMPRESSIONS OF THE NATIONAL BALLOON RACE

WHERE THE MONEY GOES — THE NAVAL AIR SERVICE

GARDNER PUBLISHING CO., INC.

HIGHLAND, N. Y.

225 FOURTH AVENUE, NEW YORK

Entered as Second-Class Matter, Nov. 22, 1920, at the Post Office at Highland, N. Y. under Act of March 3, 1879.

AIRCRAFT INSTRUMENTS

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THE GLENN L. MARTIN COMPANY
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Builders of Quality Aircraft since 1909

MAY 12, 1924

AVIATION

VOL. XVI. NO. 19

Published every Monday

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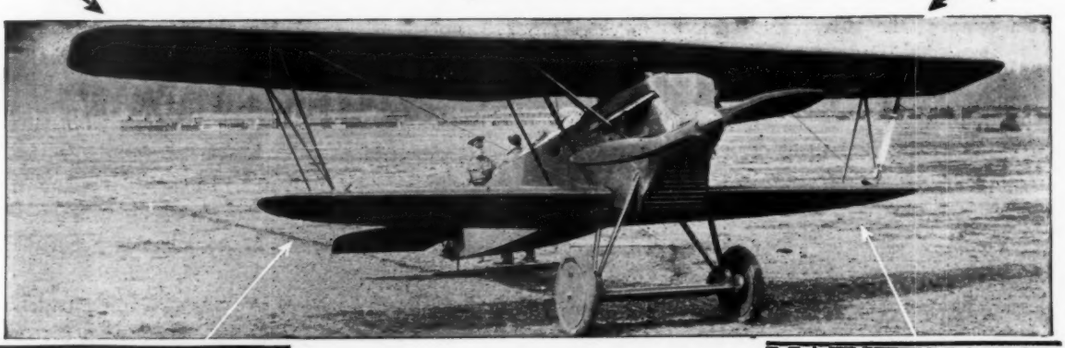
COST

QUALITY



PERFORMANCE

MAINTENANCE

THESE FOUR CARDINAL VIRTUES
HAVE NEVER BEFORE BEEN COMBINED TO SO GENEROUS AN EXTENT AS IN THE

BOEING PURSUIT

IN RECOGNITION OF THIS FACT THE UNITED STATES GOVERNMENT HAS INCLUDED A NUMBER OF THESE PLANES IN ITS PRESENT BUILDING PROGRAM

BOEING AIRPLANE COMPANY
CONTRACTORS TO UNITED STATES GOVERNMENT
GEORGETOWN STATION, SEATTLE, WASH.

PUBLISHER'S NEWS LETTER

A suggestion that appears to be very interesting is made by a well known figure in the aviation world. In a letter to AVIATION he writes:

"I notice by today's paper that General Dawes is back in Chicago. He won't accept the job of Vice President and refuses to march before a brass band.

"Thinking that perhaps you might like to find a job for him, which would possibly be beneficial to the industry and give him much opportunity to curse publicly, and knowing that you realize something should be done to better conditions as they exist at present, I respectfully submit for your consideration the advisability of recommending that General Dawes study the aircraft situation as it now exists and report to Congress what recommendations he and a committee of experts would make for the betterment of these conditions. It would greatly benefit the government and the industry, for as I size up the situation, all government employees have a healthy respect for General Dawes and his recommendations would appeal to the public."

"Hell and Maria" would probably be given a new twist if the sound business head of General Dawes investigated some of the results secured from some of the government's aviation expenditures since the War.

* * * *

There has been a great deal of unfavorable comment concerning the publication by AVIATION of the cost of government aviation. One correspondent in Washington who hears the opinion of the mighty writes: "You are at last drawing blood. I have heard several people complain bitterly about these articles. Whether they are timely or not, from the point of view of aviation politics, you are a much better judge than I. There can be no arguments as to their truth." AVIATION is not seeking "blood." Nor is it concerned as to how the truth will affect the aero-political situation. Ever since the War American aviation and all those connected with it have been under suspicion, charges or worse. Merciless attacks have been leveled at almost every government agency, person and company that has had to do with our aerial development. AVIATION has had its full share even to the extent of being accused on the floor of Congress of having improper motives in trying to bring out the facts of the cost of war aviation. Now that we are making a study of the present cost to the government of its air services, we are receiving bitter criticism. With an industry that is practically shut down, an Air Service that neither has enough airplanes nor proper types, a crisis in our aerial history is here. We believe with all the courage that is in us that the only way to a solution is a frank and open discussion of the whole problem of American aviation, not from the selfish point of view of any single service but as a business proposition. The stockholders of any company have the right to know how their money is being spent and what their employees are accomplishing. In just the same way the public should know just what they are getting for the $70,000,000 they are spending for aviation and just what the 5000 civilian government employees are accomplishing. The truth has never hurt anyone and on that ground we feel justified in giving such figures as are available.

* * * *

Giving critics every benefit of the doubt for sincerity is an excellent rule. But when it is known that some officers in Washington also have a grievance against AVIATION for complaining about the unfair and improper methods of competitive publishing, some of the criticism may be better understood. We are sorry that we have had to use so much valuable space in our small paper to give the facts as we see them, but after four years of patient silence, with conditions constantly growing worse, we now tell our side of the controversy so that our readers can judge whether or not we have fair treatment from Air Service officers.—L.D.G.

L. D. GARDNER
PRESIDENT

L. D. WEBSTER
TREASURER

GEORGE NEWBOLD
BUSINESS MANAGER

AVIATION

LADISLAS D'ORCY
EDITOR

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Vol. XVI MAY 12, 1924 No. 19

Wanted: A Cheap Airplane

ASIDE from military and the commercial planes there seems to be a real demand for a sport plane which would be used, like the automobile or the motor boat, largely for pleasure and secondarily because the owner finds it useful as well as pleasurable in his business. These planes would at first be used by the younger generation and the number of young men who really can afford an expensive plane is very limited.

The essential problem of the sport plane is cheapness of initial cost and operation, for we have already reached the point where their performance is sufficiently good. However, as the Government has been selling planes at 10 per cent and less of their original cost, the average pilot has come to think that this is a fair price and that if he pays more he is getting "stung." To reinforce his argument he points to the Ford car and asks the manufacturer to produce a Ford of the air. He does not stop to think that when Ford started his prices were comparatively very high. Automobile prices did not come down until they were built in quantities of over thirty thousand a year. When an aircraft manufacturer speaks of quantity production he is thinking of an order for fifty or one hundred machines. There is a great cost reduction in such an order, but the purchaser must realize that even so the manufacturer can not go into production on the scale which brings about the cheapness of the automobile.

Aircraft manufacturers have found that their experimental work costs them a vast amount of money—engineering, overhead, building of jigs, testing and adjusting of planes after completion—all add up and there is always a chance that the machine will not be a real success. Prices are correspondingly high and troubles are just beginning when he tries to sell his machines. However, the average aircraft manufacturer has had for its sole customer the government which considers performance or speed of output a more important factor than low cost. He has been held up to certain rigid, standard specifications and his mind has not been free to work out new and cheaper designs and methods of production. On the other hand, he has had a steady customer who could and would pay high prices and has not been forced to realize that low cost is the key to commercial aviation.

At present airplanes can only be compared in structural cost to custom built automobile bodies or high speed motor boats. Before the sport plane becomes popular it must come out of this class. The problem is a difficult one. The manufacturer cannot figure on real quantity production, he must figure on a simple machine with as few parts as possible, but having as many parts as possible made in duplicate. For example stamped metal ribs, sliding over a tubular spar, such as were used on the Dits-Moineau plane could be used greatly to cheapen wing building. Similar fittings could be used in many places in the fuselage. It is even conceivable that by clever engineering methods all control surfaces could be made interchangeable, thus making one form to be put into production where four were used before. Striving after ever better performance has produced high specialization of parts. The designer of the sport plane must realize that he has a plane which performs sufficiently well and that his real problem is producing a cheap plane, even if it lacks beauty of form and loses slightly in efficiency and performance.

The National Balloon Race

ANOTHER National Balloon Race has gone into history, adding its contribution to that ceaseless exploring of the atmosphere which is the basis of all air navigation. In spite of severe storms, the race, as usual, was devoid of accidents.

Van Orman's victory is popular, as he has been a prominent figure in all of our balloon races since the war, but till now he has never piloted a winning balloon.

Honeywell, the "grand old man" of ballooning, who has been in every race that anyone in America can remember, always coming in among the leaders, has again added to his reputation by securing second place.

Major Peek, who placed third, is a worthy addition from the Army Air Service for our Gordon Bennett team which will compete for the famous trophy June 15, next, at Brussels, Belgium.

The race management at San Antonio deserves particular praise for the efficiency with which the contest was handled. The pilots and out-of-town officials seem to be unanimous in the opinion that it was the best managed race of its kind ever held in this country. There should be more air meets of this kind.

Our Cover

THIS week's cover illustration, showing France's newest aircraft lined up at Le Bourget for inspection by the King and Queen of Rumania, furnishes a typical example of the importance air power is assuming in international politics. Although the sojourn of the Rumanian sovereigns to France was of brief duration, the official program of festivities included their visit to France's greatest military and commercial airport, where they passed in review several hundred bombing and pursuit airplanes in addition to the latest types of aircraft.

This picture is also of interest in connection with Lieut. Peltier d'Oisy's Paris-Tokyo flight, for the biplane seen behind the flag staff is a Bréguet 19B2 day bomber, which is, save for the engine, identical with the two-seater corps observation plane on which the French flier has flown from France to India in record time.

Unfair Publishing Competition

Improprieties of "U. S. Air Services" and of Some Air Service Officers Now Under Investigation

The readers of AVIATION deserve a complete statement regarding the unfair methods of competition that some Air Service officers have practiced during the last five years. Our subscribers will then understand why their favorite paper has felt compelled to bring to the attention of the Secretary of War the activities of *U. S. Air Services*.

To put the case concretely, one of the best informed men in Washington applied our complaint to another Government Department in the following style:

A Striking Simile

"Suppose," he said "that the employees of the Treasury Department organized an Association that had high sounding purposes and called it "The Treasury Financial Association," which would collect money in the form of initiation fees and dues from employees of the Treasury Department as well as from others interested in financial matters. Then suppose that in five years of its existence this association never held a meeting or did anything to justify its existence, except to take the money paid in to start a magazine. This would be edited in the Treasury Building by employees on government time, and Treasury employees traveled about the country soliciting advertising. The magazine would be edited for the financial public and not for the employees, and would claim to be the best financial magazine published. It would boast of large newsstand sales. Employees of the Treasury Department having to do with Banks, Trust Companies and Bond houses would solicit advertising from them when doing business with the Treasury Department. Now suppose Congress would start to investigate the activity of the magazine and a member of the legal department told the employees that they could escape any regulation by incorporating as a private publishing company and this were done by the employees. One or two of the latter would then leave the Department to edit and finance the project. Stock would be offered to men in the financial world. The publication would be called an "official" magazine, and it would conspicuously display in every issue and on its letter heads the names of the leading officials of the Treasury Department. Officials in position to grant favors would continue to solicit advertising for the privately owned magazine. When other finanacial magazines would complain, they would be told that this was a "service" publication like others, and that they should not feel that the competition was unfair. Finally, when a complaint would be made to the Secretary of the Treasury, the same employees would claim it was a private publication, which was designated as "official" by the Association that had an existence in name only.

The above gives the story of the magazine *U. S. Air Services*—as a fanciful application to the Treasury Department—as will be seen from statements made by the Secretary of War in a letter dated March 8, 1924, in reply to a request for an investigation made by the President of *Aeronautical Digest* and the President of AVIATION, who were later joined by the Publishers of *Slipstream*:

The A.N.A.S.A. and its Organ

"With reference to the *United States Air Services*, it appears that this magazine is published by a corporation known as 'The Air Service Publishing Company,' whose articles of incorporation authorize this publication. This company was incorporated in 1919 and undertook to sell its stock to anyone who would invest therein. The Army and Navy Air Service Association subscribed to and paid for certain shares of this stock and in addition the association took certain other stock in payment for some of its property sold to the Publishing Company.

"The Army and Navy Air Service Association is the outgrowth of 'The Air Service Club's Association,' an organization which was initiated during the World War. This 'Air Service Club's Association' did attempt the publication of a service magazine, but at the end of the war more than three quarters of the members of this club returned to civil life and its character as a strictly service organization correspondingly changed. The name of the organization was changed to 'The Army and Navy Air Service Association,' whose present membership of approximately twelve hundred is practically three quarters civilians and one quarter officers of the Army and Navy. This association found it financially impractical to continue the publication of a service magazine, established by its predecessor, and therefore decided to designate some aeronautical paper as its official organ through which it could have a means of communication with its members.

"Upon the incorporation of 'The Air Service Publishing Company' in 1919, The Army and Navy Air Service Association transferred to this company its assets, which included a subscription list and good will and all rights which it had in the then existing magazine, and in return therefor it took stock of the Publishing Company. As the stock of this Publishing Company did not find immediate and ready sale the association decided to invest additional funds in the purchase of this stock. The magazine now known as *The United States Air Services* is therefore the bona fide property of 'The Air Service Publishing Company,' certain of the stockholders of which are civilians. This Publishing Company is managed by a board of directors, who hire an editor and other necessary personnel.

Tribulations of a Magazine

"For some little time after the magazine was taken over by the Publishing Company in 1921 it was a losing venture and for a while it seemed evident that it would be necessary to discontinue its publication on account of the lack of support and the high expense involved. The Army and Navy Air Service Association as a stockholder was naturally interested in protecting its investment and it did then advance some money from its treasury to tide over this loan period. When the association had done all it could in this wise, and when law suits were threatened by printers on account of unpaid bills, some fifteen individuals, some of them officers of the Army, made an arrangement to loan the Publishing Company sufficient funds to give it another chance. The Publishing Company gave its corporate note for the loan and also its note to the association for money which had previously been advanced by the latter. The Publishing Company then freed itself from debt excepting these two notes, was able to establish its credit and make better arrangements for the publication of the magazine. One of the two notes has been paid in full and the other note is being rapidly liquidated. The company is now publishing a good magazine, one well worth reading, one that is being demanded at the news stands, as well as by subscribers. On account of the increase of circulation it has become a valuable advertising medium and is now able to obtain advertising which previously it could not obtain. The Publishing Company is gaining in financial strength and the association in turn is now in a fair way to realize something upon its investment.

"Air Service officers as members of the association and representing this association as a stockholder in the Publishing Company, are on the Board of Directors of the Publishing Company. The only other connection which the Army and Navy Air Service Association or its members has with the magazine is by reason of the fact that this publication has been designated by the association as its official organ, a means of communication with its members, and the association furnishes a subscription to the magazine to each of its members who pays his dues, the Publishing Company being paid by the Association for each such subscription at regular subscription rates. No public funds were ever used to my knowledge in promoting the magazine or in promoting the Publishing Company. It is repeated that the Army and Navy Air Service Association bears to the Publishing Company solely the relation of a stockholder in a corporation. The Chief of Air Service further reports that he can find no evidence that the *United States Air Services* as a magazine answers in any way the definition of a 'service magazine.'

Membership of the A.N.A.S.A.

"It may be noted in this connection that the Chief of Air Service is the duly elected President of The Army and Navy Air Service Association, in which office he serves not in his official capacity as Chief of the Army Air Service but solely as an individual member of the association who has been elected to this office. Furthermore, as this association is not restricted to officers on the active list of the Army and Navy, who constitute only about one quarter of its membership, it is not apparent that it may be properly classed as a 'service' association.

"In this connection it may be noted that the alleged utilization of $10,000 from the funds of the War Department for the support of the *United States Air Services* magazine is absolutely incorrect and without foundation in fact. The Chief of Air Service states that one officer in his office did render himself liable to the charge of soliciting advertising for this magazine at a time when he did not understand correctly his

position. It is probable that he and possibly some other officers were not aware of the significance of the words 'service magazine' and may have used these words without proper knowledge and therefore some of their statements have been misconstrued. In all such cases the Chief of Air Service took the necessary action several months before the receipt of your letter to insure correction of this misunderstanding."

Exhibiting Some Facts

When this letter was received, the contents were so surprising and in many ways so much at variance with other data that a new statement was presented to the Secretary of War. In fairness to him it should be stated that he has reopened the matter and is having an impartial investigation made by the Inspector General of the Army. Also it is understood that the above letter was based on information furnished by Air Service officers and was not the result of an impartial study. Exhibits were submitted to show that:

1. The Secretary's letter reversed his statement of a year ago that *U. S. Air Services* had a status similar to the *Infantry Journal, Field Artillery Journal* and other "service" magazines.

2. That the letter reverses his publicly announced policy to newspaper correspondents, when he requested Generals Menoher and Mitchell to dispose of their stock in the magazine, and declared that he was opposed to officers having to do with publications which in any way had to do with War Department policies, except supervised service magazines.

3. That the plan of publishing *U. S. Air Services* as a private venture was made to avoid Congressional investigation and that the scheme was devised at the request of Air Service officers by an officer on duty in the Judge Advocate's Department.

4. That the Information Officer of the Air Service who is Assistant General Manager and Assistant Treasurer of the paper believed it to be a "service" magazine up to a few months ago.

5. That another officer in the Information Section who is "General Manager and Treasurer" of this privately owned magazine, spent many months in its publication offices while drawing government pay and allowances, and believed all the time that it was a "service" magazine and only learned its true status when he was discharged by the civilian editor.

6. That it is improper to place an officer of the War Department in the position of being "discharged" by a civilian editor of a so-called "official" publication.

7. That the methods of advertising solicitation by officers, particularly those having any connection with the procurement branch, is improper.

8. That 36 months of officers' time in 1919 and 1923 have been devoted to this magazine representing at least $10,000 of War Department funds. The names of the officers are officially given as follows:

An Official Staff

"There have been on the staff of *U. S. Air Service* the following officers for the approximate length of time as shown:

Capt. H. I. Brock—about two months.
Capt. Horace Green—about six months.
Capt. H. W. N. Powell—six weeks.
1st Lt. E. K. Meade—two months.
1st Lt. T. N. Metcalf—about four months.
1st Lt. Reid F. Benham—about two months.
1st Lt. Raynor Carey—about six weeks.
2nd Lt. W. K. Watkins—three months.
Capt. Earl N. Findley—nine months.
Lieut. C. P. McDarment—about six months, 1923."

9. That the policy outlined would be very objectionable to publishers in similar fields if permitted in other departments of the Government, e.g., Motor Transport (popular automobile papers), Treasury Department (official financial papers) etc.

10. That the statement carried on the stationery of *U. S. Air Services* over the name of General Patrick and other officers: "The Only Magazine in America Owned and Published by Flyers" is not only incorrect as to *U. S. Air Services* but to other aeronautical publications as well, and that it was intended to damage other publications.

Purposes of the A.N.A.S.A.

11. That the Army and Navy Air Service Association has never held a meeting of members in its five years of existence; that it has changed its constitution without notifying members as required, and that it has never carried out any of its purposes, some of which are given as follows:

"The following are a few of the things this Association can do *which cannot properly be done by any body else*:

Place before the public matters that cannot be taken up officially.

Point out injustices and concentrate on efforts to alleviate them.

Discourage flying by untrained pilots.

Aid in Scientific Research.

Aid establishment of airways.

Encourage the use of aerial photography.

Designate members to speak at public gatherings on aeronautical subjects.

Maintain contact between manufacturers and inventors and flyers."

It will be noted that the Association now claims to be the only agency that can "properly" do the above things. The National Aeronautic Association and the Aeronautical Chamber of Commerce are therefore improperly carrying out their purposes, particularly as to contact between manufacturers, inventors and fliers.

Conflicting Statements

12. That *U. S. Air Services* is not published for the Association as "a means of communication with its members" as only a small percentage of the copies printed goes to members. Of the 1,200 members, only 20 are from Naval Aviation.

13. That the facts on which the Secretary of War bases his reply are not in harmony with General Patrick's statement before the House Appropriation Committee.

14. That General Patrick's statement that the Air Service Publishing Company "is not in any manner, shape or form" a profit-making concern, is not in harmony with the statement of the Secretary of War that "The Publishing Company is gaining in financial strength and the Association in turn is now in a fair way to realize something on its investment," and "The publishing company freed itself from debt excepting these two notes, was able to establish its credit and make better arrangements for the publication of the magazine." Loans can only be paid out of profits.

15. That while the Secretary of War states regarding the Association that "it is *not* apparent that it may be properly classed as a "service" association, General Patrick says that it *is* a "service" association.

The testimony referred to was given by General Patrick before the House Committee on Appropriations on the War Department Appropriation Bill, 1925, on Feb. 6, 1924, page 921. General Patrick was replying to questions concerning the following statement made by Representative Nelson in the Congressional Record of Jan. 29, p. 1638:

Carrying Propaganda

"While on the question of propaganda, I desire to call the attention of this Congress to this copy of a journal entitled *The U. S. Air Services* for January, 1924, which is filled with advertising of the companies which compose this trust, and which magazine is the official organ and publication of the Army and Navy Air Service Association. This is the same magazine concerning which Secretary of War, John W. Weeks, himself, publicly reprimanded General Menoher and others for being financially interested in. We now find this magazine, still carrying the same class of advertising, bearing at its masthead the public endorsement of the Army and Navy Air Service Association, still doing business at the same old stand, carrying on the propaganda for more money."

The testimony follows:

A Testimony before Congress

Mr. Dickinson: What control and what connection has your department or officers in your department with the Army and Navy Air Service Association which is referred to in the speech in the same issue of the Congressional Record?

General Patrick: Some of the officers of the Air Service belong to the Army and Navy Air Service Association. I myself am president of that

Association. The Chief of the Bureau of Aeronautics of the Navy is the vice-president of the Association.

It is an Association which we have formed, just as officers in the Infantry and Calvary have their Infantry and Calvary Associations and officers in other branches of the service have their Associations.

Mr. Dickinson: Does this Association publish a magazine?

General Patrick: There is a magazine published which is regarded entirely as a private enterprise. The Association does not publish it itself. The Association merely controls the publication of it, but it is not a governmental publication, and it is not published by us as officers or members of the Association.

Mr. Dickinson: Do you select the editors?

"We Select the Editor"

General Patrick: We select the editor, and he simply conducts the magazine. I subscribe to it, and so do the other officers in the Air Service.

Mr. Dickinson: Does the editor account to you for the finances?

General Patrick: The treasurer makes a report to the Association.

Mr. Dickinson: Do you have anything to do with reference to the approval or disapproval of the advertisements inserted in this magazine?

General Patrick: Yes, I could exercise supervision over the advertisements in that magazine, and could call attention to them if I thought they were improper, and I have no doubt the editor would accept my opinion concerning them.

Mr. Dickinson: What I am leading up to is this: What I want to find out is whether or not there is close cooperation between the Government and these various organizations that make aircraft.

General Patrick: I understand.

Mr. Dickinson: And I think we are entitled to an open, frank record here with reference to all these matters.

General Patrick: I am trying to make my answers as open and frank as I can.

Mr. Dickinson: I do not want to burden you with this, but I think it is important, and I think we should have a record with reference to it.

General Patrick: So do I.

Mr. Dickinson: It is noted in this magazine that practically all of the organizations of which your department buys material are carrying advertisements in this same publication.

General Patrick: Some of them I know are carrying advertiements in the publication. But I would like to say right there that as long as six months ago I did call the editor's attention to the very fact that a great many aircraft manufacturers had advertisements in the magazine and that he had secured advertisements from them. I did not know he was going to do it, but I did call his attention to that fact, and I rather questioned the policy of doing that. I questioned it because I thought it might be possible that these people were advertising just for the mere sake of getting in the magazine that they knew was really an organ of the air services of the Army and Navy. I questioned that policy, and he told me he had certain contracts he had made. It is possible some of them were made before I took office, but I asked him to modify his policy along those lines.

Not a Profit Making Concern?

Mr. Dickinson: Is the publication of the magazine with the advertisements carried on as a profit-making proposition; is it a profit-making concern?

General Patrick: It is not, in any manner, shape or form. They just about pay expenses. As a matter of fact, for quite a while they were rather deeply in debt, and the last statement I was shown indicated that they were just about paying expenses.

Mr. Johnson: What is there in it to suggest to you or anybody else that carrying those advertisements in any way is improper or unethical?

General Patrick: I see no impropriety in it at all, Mr. Johnson. I merely questioned the policy, because I thought it might be thought that these manufacturers when approached on a matter of advertising in this magazine would feel themselves rather compelled to advertise whether they wanted to or not.

Mr. Dickinson: Is the number of concerns engaged in the manufacture of aircraft very limited?

General Patrick: It is very limited, indeed.

Mr. Dickinson: And their principal customers are the government departments.

General Patrick: Practically their only customer is the government. There is no commercial demand for aircraft.

Mr. Johnson: Do you know what the advertisements of those particular concerns would amount to in this magazine?

General Patrick: No I do not.

Mr. Johnson: Is it of any consequence?

General Patrick: No great consequence, I feel sure, but just exactly what they pay for the advertisements I do not know.

Mr. Johnson: So if the acceptance of those advertisements influences the giving of contracts, it would be with somebody who was quite cheap, would it not?

General Patrick: I think so, and as I am responsible for all the contracts let by the Air Service, I can not tell you who advertises in the magazine. I know there are certain advertisements, but I do not believe I have ever read them over.

Mr. Johnson: If that influences the awarding of contracts, it would not be comparable to the oil game, at least, would it?

General Patrick: I am not an expert on that matter, sir.

An Indefinite Status

The status of this "official" magazine has been so indefinite and confusing that the aeronautical publications have requested that its relationship to the War Department be made clear so that the public, advertisers and publishers of other aeronautical magazines will not be misled as in the past.

A recent example of the kind of improper statements made by *U. S. Air Services* was sent out on April 1, 1924, bearing the names of officers of the Services:

"To all Air Service officers and other readers of *U. S. Air Services* in Washington, D. C." It refers to the magazine as "our magazine" and requests "preference" to local advertisers. Then officers are informed: "It will be of great practical assistance to us, as well as our advertisers, if, when doing business with our advertisers, it might be mentioned that you are doing so at the request of *U. S. Air Services* magazizne." As this was sent out with General Patrick's and other officers' names it implies favoritism to this magazine's advertisers. On April 24, 1924, it sent a letter bearing General Patrick's name at the top of the letterhead stating:

Maintaining "Official Contact"

"*U. S. Air Services* is published for the Association and it maintains official contact. Our sources of information have widened so rapidly that it is enabled to publish data not available to other aeronautical publications."

Since then the Air Mail has withdrawn from any connection with the publication and Admiral Moffett has made the following statement, "I can assure you that there is no official relationship between the officers attached to the aviation branch of the Naval service and the magazine. I desire to take this opportunity to tell you that the Bureau of Aeronautics and the officers in Naval Aviation are in no sense interested in promoting unfair competition to the detriment of any publishing company in the aeronautical field."

At a time when the publication was printing a small number of copies, it sent letters to advertisers stating: "We can guarantee that your advertisement in *U. S. Air Service* will be read by not less than 10,000 readers," a method of creating an impression that is often used by papers of doubtful circulation.

In 1919 the magazine stated: "until we regain the confidence of our superiors in the Army and reconvince our Treasurers, The Public."

An Official Organ?

Again: "This magazine is the tangible expression of a long felt need for an official organ."

As complaints regarding this publication covering a period of four years have not been satisfactorily met, and as AVIATION has suffered from the unfair "official" relationship, it is giving its readers a part of the complaint that is now before the Secretary of War.

The publisher of *Slipstream* has to say the following regarding *U. S. Air Services*:

"It might be well however for me to make myself clearer and state that *Slipstream* was virtually forced to discontinue under the method followed at McCook Field by an order issued some months ago by General Patrick to the Chief of the Engineering Division, McCook Field, I am not in position to give the exact date of this correspondence or the reference numbers to the files, etc. However, I recall that the *Slipstream* was ordered to cancel all advertising carried for concerns having contracts with the U. S. Government. In the course of his explanation the General stated that he also 'objected' to the carrying of such ads in the *U. S. Air Services* magazine. I do not know whether a positive order was issued to the U. S. Air Service Publishing Company or not.

"The Air Service authorities are open for a lot more criticism later on if the Air Service Publishing Company is permitted to continue under the present status. Their position is too 'thin' to cover up. Once they are made to show their hand I am sure they will find it a little harder sailing to publish a magazine. In their present position they can't render full service to such clients as ——— and ———

and others for fear of being censored by the Air Service officials.

"We merely feel that undue pressure has been meted out on *Slipstream*, the least erring of the service papers while grossly unfair methods are going on right under the nose of Air Service heads."

That this matter has a very much broader aspect than improper methods of conducting a business by officers, is evident from the following letter to the Secretary of War from the National Publishers Association which has within its membership the leading magazines in the United States:

"If the same policy were applied to all government departments there might be competition by employees of the government with many publications which deal with government activities—that is, Treasury, Labor, Commerce, Post Office. So far as we know these departments do not permit any publishing competition with privately owned magazines.

"This, you can readily see, would make the government a party to a questionable method of competition in business; enjoying the prestige of being a semi-official organ by reason of its personnel, it might be considered unfair competition to private venture and investment.

"The need for 'Service' magazines to publish technical and personal matter that could not be found elsewhere is obvious, but when an 'official' publication is issued for the public, we believe that the questions involved are worthy of your consideration."

Coast-to-Coast Through Air Mail

Inauguration of daily, regular, and permament Air Mail service between New York City and San Francisco on July 1, 1924—the moment appropriations made by Congress become available—is the plan of the Post Office Department, it is announced by Postmaster General New.

Experiments conducted last August when mail planes crossed the continent eight times, flying in the dark of the night over a lighted pathway 1000 mi. long between Chicago and Cheyenne, proved conclusively the practicability of night flying by setting up a perfect record of 100 per cent performance. The tests, covering a period of four days, established an elapsed time record eastbound of 26 hr. 14 min., and westbound of approximately 29 hr., compared with 87 hr. by train. It was not so long ago that the problem of running railroad trains after dark was faced with just as much trepidation. Neither was it so long ago that the pony express added page after page to history by the unheard-of speed of eight days between St. Joseph, Mo., and San Francisco.

However, the new air mail schedule will not attempt to set speed records. Safety of the pilots and safe handling of the mails will be the prime requisite. Instead of 26 hr. eastbound, the new schedule calls for 32 hr. 5 min., and westbound the time will be 34 hr. 45 min. instead of 29 hr. It requires no prophetic vision, however, to predict that within a few years, or perhaps months, the coast-to-coast air mail flying time will be cut to 24 hr.

With a view to protecting the fliers and safeguarding against mishap, bids for new planes with slower landing speeds, deemed necessary for night landings, have been advertised for, and will be opened June 10.

No delay will be occasioned in re-conditioning the lighting system along the lighted airway, as this has been kept in perfect maintenance. This airway is lighted with automatic acetylene lights every 3 mi.; while every 25 mi. an emergency landing field is provided with a revolving search-light type of electric light, and at intervals of approximately 250 mi. are the regular landing fields equipped with revolving search-light beacons of 500,000,000 candle power which cast their beams from 100 to 150 mi.

Special Air Mail postage has been arranged for and stamps, in denominations of eight, sixteen, and twenty-four cents, have been printed and distributed to all post offices along the route as well as to principal cities off the route. For postage purposes the route has been divided into three zones, one between New York and Chicago, another between Chicago and Cheyenne and the third between Cheyenne and San Francisco. An eight-cent Air Mail stamp will carry an ounce letter anywhere within one of these zones; while it will require a sixteen-cent stamp to carry such a letter into the second zone and a twenty-four-cent stamp into the third zone.

Letters originating at, or destined to, points off the Air Mail route will not require additional postage. The Air Mail postage will be honored for travel by train as well as by air. For instance, an ounce letter mailed in New York addressed to St. Paul, Minn., with the special Air Mail postage of eight cents, will travel by plane to Chicago where it will be taken by train to its destination. Such a letter, leaving New York about 10.30 in the morning, should reach St. Paul by 7.30 the following morning.

Mail between almost any two cities in the United States on an east and west line may be transported, at least a part of the way, by Air Mail if the proper postage is affixed. Any class of mail, *including parcel post packages*, may be sent by Air Mail but only the regular Air Mail postage rates will be applicable. Experience only can tell whether the rate of postage fixed will pay for the service.

Special Air Mail letter boxes also are being installed in the larger cities along the route with a view to expediting the handling of mail designed for transportation by air.

It must be remembered that the existing daylight transcontinental Air Mail Service which has been functioning for the past six years is only an advancing service; that is, it advances from one terminal point to another, mail deposited after the departure of trains, and operates as an auxiliary to the regular schedules of the established railway mail routes. This service will be combined with the night flying to form the through transcontinental service so that instead of merely advancing mail it will be carried on through to its destination or nearest transfer point.

It is the hope of Paul Henderson, Second Assistant Postmaster General, in charge of Air Mail Service, to operate the through service with the same degree of efficiency and regularity that has been maintained in the advancing service. For the past two years the record of performance in this service has been 95 per cent perfect which will make a high record to "shoot at."

New Rate of Climb Indicator

Rate of climb recorders, wherein a record of the rate at which the airplane climbs is made on a photographic film or paper, have been developed at the Bureau of Standards, Department of Commerce, and are expected to prove useful in acceptance tests of airplanes.

The climbing ability of an aircraft is considered one of its most important characteristics, and is carefully investigated in performance tests. The methods heretofore in use required the presence of an observer in addition to the pilot or else they called for laborious computation in the laboratory after the flight. If an observer is carried he may make a record of the rate of climb by means of the altimeter and his stopwatch or by reading the rate of climb from the rate of climb indicator. In the laboratory the rate of climb can be computed from the barograph record of the flight.

The new instrument gives a complete and permanent record of the rate of climb throughout the flight, and is found capable of recording variations which no other method will show. The lack of equilibrium in the free air is very clearly indicated.

A Minor Air War

Air pilots of the Honduran revolutionary forces have begun bombing raids on Tegucigalpa, the capital, and have killed a number of women and children.

Four bombs were dropped near the grounds where members of the American force from the cruiser Milwaukee were exercising, but dispatches to the Navy Department made no mention of any casualties among the American naval men.

The report to the Navy Department said the aim was to bomb the jail at Tegucigalpa, but that the missiles landed on residences.

To Fly or not to Fly

Drawbacks and Possibilities of Air Transport in the United States Today

By ROLAND ROHLFS

Roland Rohlfs, it will be remembered, was the aviator who in 1918 broke the world's altitude record with the "Wasp," while, prior to that date, he held the speed and climbing records with the same machine.

For the past four years he has been in charge of operations for the Aeromarine Airways and naturally has been in a position to acquire a great deal of experience and knowledge. He is therefore in an excellent position to write the following article, giving the facts about aeronautical passenger transportation in the United States today.

GLENN H. CURTISS.

Whatever the physical or mechanical drawbacks may be that are retarding the advance of commercial aviation in the United States today, the lack of demand for this service is the outstanding impediment at the present time. With a satisfactory demand all other hindrances would automatically disappear, for their perfection depends entirely on interested capital and the ingenuity of those in the industry.

The lack of demand is controlled almost entirely by present public opinion, which is effected by the high rates and the supposed risks involved. The elimination of fear, which is now prevalent, is a matter of education, and the price cannot be lowered profitably with the present demand and equipment.

Some Subsidy Needed

I honestly believe that it is impossible to make commercial aviation in the United States today pay without a subsidy of some sort. So varied and complicated are its numerous expenditures that some form of relief must be forthcoming to supply the proper equipment. This new equipment can render a service that will be of value to the people in general, thereby increasing the demand and putting this means of travel on a paying basis. Either the Government must help the cause in the form of a percentage cash subsidy, or aviation must rely on the resources of some private party that believes in the future and is content to wait for the positive, but delayed, use that will be made of this fastest means of travel.

Personally, I believe quicker results can be obtained by receiving support from the manufacturing industries and by the carrying of mails, than by trying to overcome the natural resistance the traveling public now have toward flying.

A subsidy arrangement could be worked out, whereby manufacturers would contract to supply daily a certain poundage of their wares for transport. With scheduled runs of this sort, mail contracts could easily be secured, while at all times passenger transportation would be encouraged, but not considered vital to the line's existence. By continual and successful operation on this form of subsidy, the public would be steadily sold by results, which is certainly the most convincing form of selling propaganda. The psychology alone would go a long way toward reversing the now general fear the public seems to have acquired. A line of this sort would be the most useful and appropriate advance agent any new form of transportation could ask for in building up public confidence.

Public Opinion, the Stumbling Block

Present public opinion is the stumbling block in the way of the advancement of air travel. Information controls this opinion and we cannot expect satisfactory returns if this information fails to produce the desired results. The public's confidence has been shaken in the safety of air travel by misguided education.

The newspapers of this country naturally make far more of an aerial accident than of an invention that would prevent hundreds of similar accidents in the future. One makes a spectacular story that leaves a lasting impression, while the other is read with only a mild degree of interest. This form of education goes a great way toward prejudicing the public against aerial transportation. Until the people realize that this is a natural procedure of the press to supply them with the kind of news that is in general favor, they will continue to be more deeply impressed with aviation's calamities than with its merits and accomplishments. Information released for public consumption will leave a better effect when excuses for poor service can be supplanted by actual demonstration of schedule flights. Therefore, it is better to build the planes now that will release constructive information by their operation than limp along with the present unsuitable equipment, continuing to feed the wrong medicine to the public's educational needs. Without a machine capable of holding a schedule, there can be no real commercial aviation, if for no other reason than its lack of reliability.

Special Equipment Necessary

Machines must be built with excess horsepower and multiple motors, so that if head winds are encountered, destinations on schedule can be guaranteed. In case of possible motor failure, the reserve power must be ample to enable the ship to continue unhampered. Getaways must be assured with full loads and bad atmospheric conditions.

The education of the people is a comparatively slow procedure, but can best be hastened by demonstrating a line run on schedule. The lack of schedule alone has done more to hold commercial aviation in the novelty class than any other thing. It is almost entirely responsible for the chaotic conditions surrounding operations and prevents the establishment of business-like methods. It places the salesmen in an almost impossible position by giving them an indefinite proposition to sell. Air travel will never become a commodity of commerce or win the necessary approval and support of the people if it is allowed to continue as a seasonable, daylight, and a fair weather proposition.

The problems surrounding night flying must be worked out and the service adopted regardless of its unpopularity at the start before air travel can take its place with other methods of transportation. The airplane loses too large a portion of what it gains if compelled to stop intermittently. Until night flying becomes popular, the mail and express must be regularly carried, because it is by its delivery that the public will be convinced and begin to take advantage of night flights. Aviation cannot afford to wait for an adequate demand for its services. It must start giving service to what there is today.

By building the proper ships to overcome these difficulties a satisfactory demand would be the inevitable result because the service rendered would be of commercial value to the community at large.

Present Limitations

If flying for a novelty or an adventure is to be considered "commercial aviation" then the present obsolete and inefficient machines are ample to the task. But it must be admitted that if the airplane is to be adopted as a commercial carrier, it will be impossible to secure satisfactory results with equipment that cannot meet commercial requirements.

The present limitations in the possible field of operation is best illustrated by considering a circle to represent 365 days or a year's time. This is the field which the majority of all other transportation systems are able to successfully operate in, while Commercial Aviation at present must suffer the following drastic reductions:

Seasonal reductions eat up one-half year, cutting from the circle an arc of 180 deg.; night or darkness reduces flying by three months, cutting 90 deg. from the remaining arc; then bad weather takes from the remaining time one and one-half months, or a 45-deg. arc from the circle; we have, then, only one-eighth of a year's time to utilize—one and one-half months, or 45 deg. of our original 365 deg. circle—and that is the time that is available for selling aerial passenger transportation to the public.

Until aviation can overcome these three serious drawbacks the demand can never reach commercial importance.

In a true sense of the word, the lack of design necessary to overcome the aforesaid difficulties is holding back the demand, while in turn the demand is holding back the design. No one seems willing to shoulder the responsibility and give the industry the proper start, now that experience has taught what is necessary to place commercial aviation on its feet.

Other difficulties, of too rapid deterioration of equipment, difficulties of selling air transportation, the high insurance rates, expense of operations and the inherent dangers in connection with bad weather flying, are linked directly to advanced equipment for their betterment.

Insurance Depends on Performance

The insurance rates depend solely on performance. The difficulty of selling depends on safety, reliability of operation on schedule, and price. These as well as deterioration, can be solved with metal construction and multiple motors. The number of earning hours the equipment is operated will increase with the adoption of day and night schedules, which will materially reduce the cost of operation, since the degree of economy depends on the demand made upon the equipment.

That reluctance now felt toward operating in bad weather will disappear with the establishment of radio-equipped machines capable of staying aloft until their destination is reached.

The airplane's commercial value has been fully demonstrated. The amount of its usefulness will depend on the operating of planes that can create and satisfy a steadily increasing demand. The American people want this thing, but we can't deny the fact that they deserve a modern airway to test their aggressiveness to this means of travel before we have a right to criticize their lack of support.

It is plain to see a bright financial future for any transportation system that can offer such desirable inducements as those afforded by air travel provided, however, it can render a service that will be a real public utility.

The War Contracts Investigation

In view of the misunderstanding that appears to exist generally as to the present status of the Air Service's war contracts now under investigation, the Secretary of War authorizes the following statement:

"At the time of the change of Administration in March of 1921, the Air Service Claims Board had virtually completed its work of passing upon war claims. In connection with the settlement of the remaining cases which were taken up after I had assumed the office of the Secretary of War, attention was directed to some of the earlier negotiated settlements which had been made by the prior Administration. It was felt that it would be for the best interests of the Government to re-examine a number of them and, in fact, General Menoher, Chief of the Air Service, recommended a re-examination of a number of these earlier settlements. The recommendation was held for discussion with his successor, as I had decided to select another officer as Chief of the Air Service. General Patrick, shortly after taking charge of the Air Service, made substantially the same recommendation as General Menoher. I approved the recommendation and directed him to proceed at once with the examination.

"In fairness to the previous administration, it should be stated that certain of the negotiated settlements on contracts for aircraft and engines were made hurriedly, because of an earnest desire on the part of the Government that these contractors resume their peace-time activities as soon as possible. Many of them had converted all of their plant facilities and their finances to the production of war material. Manifestly they could not re-commence peace-time production without being paid by the United States. This called for some kind of an immediate settlement. That such action was proper is evidenced by the fact that all Air Service contracts contained a provision requiring the contractors to keep their books and records intact and available for examination by the United States for a period of six years after the termination of war. It was evidently foreseen when the contracts were written that a sudden cessation of hostilities would necessitate prompt settlements.

"Upon examination of all contracts made by the Air Service during the war, it was found that no further investigation was necessary in the great majority of cases. It was apparent, however, that a thorough audit was essential in thirty-two of the major contracts, which involved the largest amounts of money, in order to ascertain with exactness the sums which should have been paid to the contractors.

"Very few employees in the Air Service were competent to make the kind of an audit which these contracts called for and the funds available were exceedingly small. I authorized the use of all available funds, and called the attention of the Congressional Appropriation Committees to the situation that had developed. As a result the annual appropriation bills authorized the sum of $25,000 to pay the cost of the audit. As many skilled auditors were put to work as could be secured with the money provided, and the audit has been prosecuted as rapidly as possible, considering the small force that could be engaged, the magnitude of the task, and the vast number of papers, vouchers, etc., which had to be scrutinized.

Contracts Carefully Examined

"The contracts themselves had to be most carefully examined in connection with the audit, as the propriety of some of the amounts allowed in the tentative settlements hinged upon the interpretation of contract clauses.

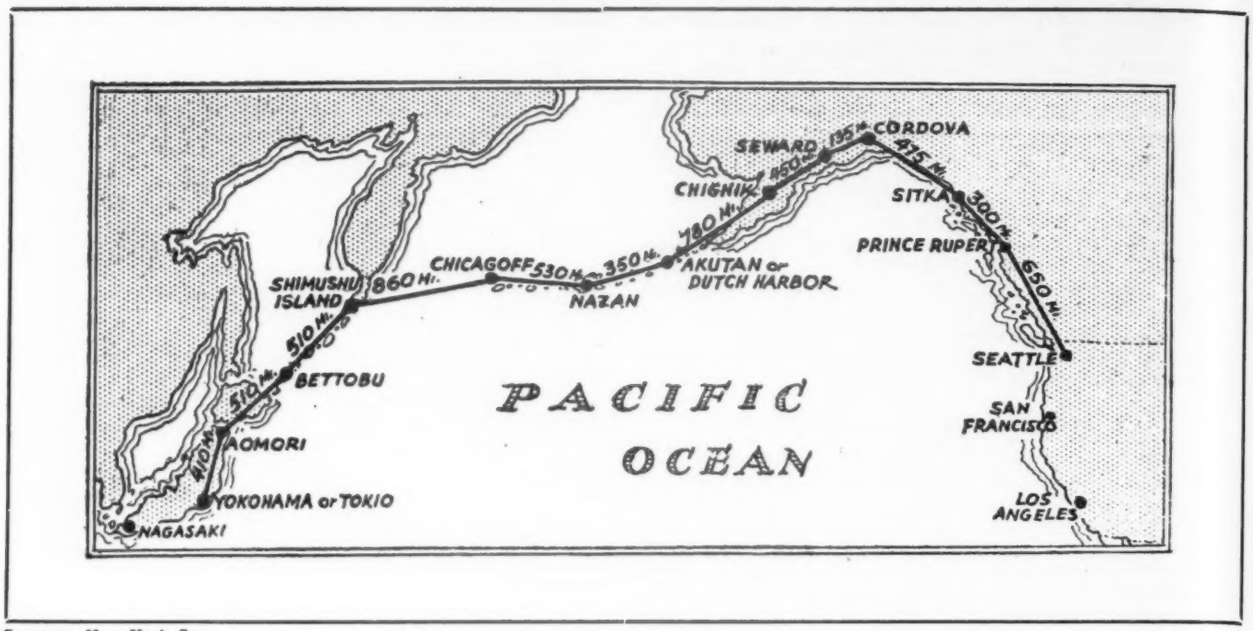
"The contractors were notified whenever the work on their contracts had progressed to the proper point. They were then permitted to present evidence and submit arguments and explanations on the sums allowed in the original settlements. This involved much work on their part and the War Department properly allowed them the necessary time for its performance.

"After the contractors had presented their side of the case on the points at issue, those in charge of the audit drew up a summary of their conclusions. These included itemized statements setting forth the sums which in their opinion had been allowed improperly to the contractors in the original settlements and showing in some cases un-allowed sums to which the auditors believed the contractors justly were entitled.

"Upon completion the cases were presented at joint meetings of the War Transaction Board of the War Department and the War Transaction Section of the Department of Justice. The salient facts in each case were stated at these meetings and the Air Service representatives recommended that the results of the audit be transmitted to the Department of Justice for any further action which might be necessary.

"Thirty-one cases, all-told, have been transmitted to the Department of Justice and the items reported by the auditors in these aggregate about $40,000,000. A considerable part of this total consists of the so-called 'bonus' payments to contractors. The cost of the articles to be manufactured was unknown when the contracts were let during the war. In some of these cost-plus contracts agreements were made that the price should not exceed a certain specified amount. For example, in one of the contracts for Liberty Motors it was agreed that the price of each motor should not exceed $6,000. There was, also, a further agreement in this contract that the contractor should share in the saving if the cost as finally ascertained was less than the assumed figure and should receive twenty-five per cent of the difference between the actual price and the assumed price. This illustrates what is known as the 'bonus' payment. The legality of such contract clauses has been questioned. In the auditor's report these 'bonus' settlements are given separately, as final decision as to their legality will be rendered by the courts when the cases are before them."

Progress of the American World Flight



Courtesy, New York Sun

Map showing itinerary of American World Flight from Seattle to Japan

Persistent ill luck seems to dodge the progress of the American World Flight. Maj. Frederick L. Martin, A.S., its commanding officer, who on April 25 proceeded in flight from Kanatak to Chignik after having installed a new Liberty engine, was held at the latter place by violent gales until April 30, when he took off for Dutch Harbor, where the other three planes of the expedition were waiting for him. Since then no news has been had regarding the Seattle, the plane which carried Major Martin as pilot, and Sergt. Alva Harvey, as mechanic. A methodical search by Coast Guard cutters and all other available means of sea and land conveyance has so far failed to trace the two missing airmen, but hopes are entertained that they may have found refuge in some deserted cove. As they carried emergency rations for several weeks, arms and fishing tackle, the chances of their being rescued are good, except for exposure to the severe cold.

Major Martin took off from Chignik taking desperate chances to join his team mates at Dutch Harbor. Before leaving, 400 lb. of ice had to be removed from the plane, and the gas and oil pumps had to be thawed out before the tanks could be filled. A weather report signed by Blair, the Signal Corps Weather Observer, and referring to the previous day, reads as follows:

"Weather Unalaska 5 a. m. April 29: Barometer 30.17 steady; temperature 25 deg.; sky covered with clouds at 2000 ft.; wind, surface to clouds, N.W. 30 mi./hr.; frequent snow squalls with gusts and very high wind; visibility poor between squalls, 500 yd. during squalls. No prospect of improving during day."

Major Martin, in transmitting this report to the Chief of Air Service, wired as follows: "No. 1 (plane Seattle) ready awaiting only reasonable flying weather for 5 hr. trip to Unalaska. Have taken all possible chances. Weather must wait better conditions to protect lives and ships. No parallel weather in States."

It is considered possible that the Seattle may have crashed on account of the ailerons freezing up in driving sleet. Major Martin said, the day before he left Chignik that on previous occasions lateral control was at times extremely difficult on this account.

In order not to delay unduly the American World Flight, the Chief of Air Service has directed Lieut. Lowell H. Smith, pilot of the Chicago, to take charge of the three remaining ships and proceed on the route. The Chicago carries as a passenger Lieut. Leslie P. Arnold, alternate pilot, and not, as was stated, Sergt. A. H. Turner. The Boston carries Lieut. Leigh Wade, pilot, and Staff Sergt. Henry H. Ogden, mechanic; and the New Orleans, Lieut. Erik Nelson, pilot and engineer officer, and Lieut. John Harding, A.S.O.R.C., mechanic and maintenance officer.

On May 3 the three world cruisers flew from Dutch Harbor to Nazan, on the island of Atka, making the 350 mi. trip in 4 hr. 15 min. in a low lying fog.

Lieutenant Smith has requested that a radio compass be designed and shipped to Hull, England, for the trans-Atlantic trip, provided that the weight can be kept under 50 lb.

Paris to Tokyo Flight

The Paris to Tokyo flight undertaken by Lieut. Peltier d'Oisy, pilot, and Sergeant Vesin, mechanic, on a Bréguet 19A2 corps observation plane of the French air force, is making good progress. The total distance of the proposed flight is approximately 12,100 mi.

On Tuesday, April 29, the two airmen flew from Bender Abbas, Persia, to Karachi, India, a distance of 770 mi. which they covered non-stop in about 7 hr. Owing to the bumpy nature of the airdrome at Bender Abbas, the plane burst a tire on taking off, and d'Oisy had to make a careful landing at Karachi. Three days were spent at the latter place to give the men some rest and to permit of overhauling the engine which had not even required the changing of a spark plug since the ship left Paris. The flight from Paris to Karachi—a distance of 4500 mi.—was made in six days elapsed time, which is an unprecedented record of mechanical and human endurance.

On May 3 d'Oisy and Vesin hopped off from Karachi bound for Agra, India, which they reached the same evening, covering 800 mi. in less than 7 hr. On this leg they passed over the disabled Vulture, Major Maclaren's world cruising plane, which was still awaiting a new engine. Here the intense Indian heat was beginning to tell its own story, for dispatches reported that the fabric of the Bréguet's top wing was beginning to disintegrate, while natives were constantly keeping the Vulture's wings wet to prevent their cracking.

Where the Money Goes

Naval Aviation Costs About $35,000,000 a Year — How the Funds Are Spent

Rear Admiral William A. Moffett, Chief of the Bureau of Aeronautics, gave the House Appropriations Committee a very complete idea of the problems of Naval Aviation at the hearings. He presented what is perhaps the best statement on the expenditures of the Bureau of Aeronautics since the War that has ever been made public. It shows that for the years 1920 to 1924 inclusive Naval Aviation has cost $84,359,021.63. This, of course, is only the expenditure out of the funds allotted to his Bureau.

Itemized Costs for One Year

Admiral Moffett then takes one year and shows that while $14,655,345.00 was spent out of Bureau Funds, the total spent from naval appropriations was $34,759,807.01 exclusive of the cost of maintaining aircraft carriers and tenders ($1,577,000), the Bureau of Engineering aviation work ($266,630) and the Bureau of Construction and Repairs work for aviation ($343,301). These figures do not include the cost of the work being done on the aircraft carriers Lexington and Saratoga, as Admiral Moffett feels that charging these costs to Naval Aviation would be like charging the cost of battleships to the Bureau of Ordnance.

Taking the above figures as a basis, it will be seen that the entire expenditure of the Navy for Naval Aviation is about two and a half times the appropriation for the Bureau or, in a broad way, it indicates that since the War $84,000,000 has been spent from Bureau Funds while the whole expenditure possibly has amounted to $200,000,000.

It should be remembered that the pay item of Naval Aviation does not come out of Bureau Funds. This amounted to $6,774,134 in 1923.

Very generously, Admiral Moffett includes in the cost $10,000,000 as one year's expenditures for "Surplus War Material." This does not represent a cash expenditure but the utilization of material purchased at "peak prices," whereas its actual value is only about 30 per cent of its book value. Its sale value would probably only be 10 per cent of its book value.

Valuation of Liberty Engine

An illustration of this method of figuring is shown in the statement made by General Patrick that the Army values its Liberty engines at $7,500 while these engines are being built up of new parts and sold in New York City now at a price of $2,500. This is one of the most difficult problems of the costs. It would be unfair to call this a cash expenditure, and yet the money was paid by the people and has to be charged somewhere. It is unfortunate that it has to appear in these figures, as it makes them seem much larger than they really are. That is why the matter is being explained here at some length.

The Naval Aircraft Factory was the first major item of expense discussed by Admiral Moffett. His testimony has been supplemented by a letter to AVIATION in which he says:

"It is noted that you desire information relative to the Naval Aircraft Factory, which information you wish to use in connection with an analysis of Navy figures. You ask fourteen questions, and information relative to these questions is forwarded herewith. In giving the answers, your particular attention is invited to the explanatory notes in connection therewith. It is extremely difficult to give accurate answers to a number of these questions because the information which might be presented to you on a given date might be incorrect a month later. This applies particularly to the question of personnel employed, which is a fluctuating matter depending upon the exigencies of the service. Practically all of this data is submitted each year to the Congress in connection with the Naval hearings, and the answers to many of your questions are contained in the Congressional hearings of the present Congress.

"You ask why more airplanes are not being bought. The question is undoubtedly fair enough, provided due consideration is given to all the other activities involved in the conduct of Naval Aeronautics. If you will take the trouble to carefully examine the hearings before the committees of the Congress in connection with our annual appropriation bills, you will readily ascertain just where the money is spent which the Congress appropriates from year to year. Your attention is particularly invited to the fact that when the Bureau of Aeronautics was formed, its organization was covered by a General Order issued by the Secretary of the Navy. The laws and regulations under which we are operating require the Bureau's appropriations to be expended for practically all activities throughout the service which pertain to Naval Aviation. We operate, therefore, in an entirely different status than obtains with other Bureaus of the Navy Department, and the Bureau of Aeronautics' appropriations have to cover all of the activities involved. In this connection, the Bureau of Aeronautics is more nearly similar to the Bureau of Ordnance than to the other Bureaus of the Navy Department."

The Naval Aircraft Factory

The appropriation for the Naval Aircraft Factory is $1,500,000. The number of civilian employees is approximately 1,300. This number fluctuates slightly from time to time. It includes 200 employees engaged in store keeping and shipping activities. The salary list is very interesting when compared to those given for McCook Field in last week's issue of AVIATION. There are at the Naval Aircraft Factory no employees drawing over $5,000 and only one, a chief draughtsman, who draws over $4,000.

But more significant than the above are the figures given regarding the total number of planes manufactured for the Bureau. It shows that the number of planes made at the Naval Aircraft Factory has decreased from 85 in 1921 to 15 in 1923 while the number of planes made outside is proportionately greater. The figures follow.

Year	*No. Mfd. in N.A.F.*	*No. Mfd. Outside*	*Total*
1920	36	134	170
1921	85	185	270
1922	20	159	179
1923	15	180	195

Equally interesting are the figures giving the number of planes reconditioned, as appears from the following table:

Fiscal Year	*No. of Planes*
1920	157
1921	105
1922	116
1923	46

The Civilian Employees

The planes built at the Naval Aircraft Factory during 1923 were constructed out of 1922 money. In 1922 the Bureau authorized the construction of an experimental type of training plane at the Factory. At the present time there are two modifications of this design which are practically completed, there being five planes in all. There is also under construction one plane of an experimental type for Marine expeditionary purposes. No new types of planes have been authorized to be manufactured at the Naval Aircraft Factory during 1924.

In addition to the above mentioned 1300 civilians employed by the Bureau at the N.A.F. there are 838, 500 of whom are at Pensacola. The total number of civilians employed by the Bureau of Aeronautics is therefore approximately 2100. Adding to this number the number of civilian employees of the Army Air Service (2953) there appear to be over 5000 civilians employed by both Army and Navy Air Services.

The $1,500,000 is expended at the N.A.F. in the following manner:

Grounds and Buildings	$7,650
Tools and Machinery	34,650
Supply Group	211,500
Transportation	43,650
Power Group	137,850
Administration Group	371,400
Shop Group	271,950
Miscellaneous Group	23,400
Models, tests	2,100
Repairs to Aircraft	164,850
Losses, Aeronautical Material	900
Operating expenses, aircraft	1,035
Manufacturing	229,065
Total	$1,500,000

Regarding the purchase of new planes the Bureau of Aeronautics asked for $5,264,826, which allows for the replacement of all but seven planes figured according to a 50 per cent wastage schedule.

There are 548 serviceable aircraft on hand or on order in the Navy. The types are as follows: V5 (fighting planes) 115, VO (observation planes) 156, VT (torpedo—bombing) 57, VS (scouting planes) 27, VP (patrol) 74, VN (training planes) 117, ZN (rigid airships) 2. It is planned to purchase 138 planes in 1924-25. The loss due to wear and tear or obsolescence in 1925 is estimated as 175, so that on June 30, 1925, Naval Aviation expects to have 511 serviceable planes.

It is interesting to note that of the 437 line officers assigned to Naval Aviation, 393 are required to fly, and 308 of this number are now qualified to fly. Of the 124 staff officers, 12 are required to fly and 8 have qualified.

The cost figures of Aviation are so scattered that it is almost impossible to interpret them. Then again, they often mean little when shown in the appropriations, as authority is given the Chiefs to use money from one fund for another purpose. It is here that much confusion arises. If an itemized statement covering the expenditures for the government by all Departments and Bureaus were available, it would make it possible for criticism to be more constructive.

Impressions of the 1924 National Balloon Race

By H. V. THADEN

Pilot of the Balloon Detroit in the Race

In attempting to record one's impressions of the 1924 National Balloon Race, the first is that very pleasant one resulting from participating in a well-managed race. San Antonio, its citizens and the Army Air Service stationed there, are to be sincerely congratulated on their efforts to stage this aerial meet and thanked for their generous hospitality. In every respect it was a complete success. The race should have been a financial success judging from the estimated crowd of 75,000.

Management was Excellent

Dr. Thompson, Major Lambert, Colonel Culver and his assistants Lieutenants Kehoe and McKee, as well as the many others too numerous to mention, were on the job in a true military manner, taking care of all contingencies.

Natural gas was turned on the morning of the race and the balloons were partly inflated. Hydrogen gas was turned on about 1 p. m. from a battery of about 200 cylinders stationed at each contestant's balloon. The quantity allotted was in proportion to the volume of the individual balloons and was determined by an accurate check on the pressure and temperature of each hydrogen bottle. Final topping off with natural gas occurred after this and the balloons were put up on their foot ropes. The gross lift of gas approximated 51.2 lb. per 1000 cu. ft.—possibly the highest lift gas ever used in a national race. Although only a small breeze existed at the time, recourse to extra weight in the form of hydrogen cylinders had to be made, to keep the bags from floating away.

Mr. Jarboe, one of the expert meteorologists from the U. S. Weather Bureau, on duty for the race, and the Army Meteorological Section at Kelly Field kept the contestants informed "weather-wise" in a truly commendable manner; maps and hourly upper air soundings, as well as expert advice, was available at all times.

Pilots desiring a means of communication with Kelly Field after the start, were given four homing pigeons each. Fortunately we had no real need for this method of communication and our pigeons returned with messages of good winds and direction.

Start of the Race

The start of the race was without incident, in ideal weather. We were the last to take off at 5:53 p. m. Our weigh-off of three bags light took us to 1200 ft. traveling Northwest at 11 mi./hr.

The first few hours out we spent getting cargo stowed shipshape. And a plenty there was—10 gal. of water, thermos of milk and coffee, food for about one week, heavy clothing for altitude and Canada (?), lime for cooking, collapsible fabric boat, radio, as well as the other four dozen necessities. The radio antennae was adjusted and the rim cords tied down. An electric torch secured over the table gave us a convenient lamp for reading maps and making notes in the log. This was a real convenience throughout the night.

Our policy at the start was to get as far North and East as possible, preferably North the first night, and then more East in the morning. After dark we experimented around a bit and located a fairly fast strata of air moving to the North North East. The estimated speed was around 25 mi./hr.

The country in general was barren, few lights were visible and only at long intervals did towns loom up. Throughout the race we paid little attention to our exact position, feeling that speed and direction were the only important considerations with such a large inhabited territory ahead of us. At 10:45 we tuned in WLS Chicago and here received our first disappointment. Try as we could, all the possible combinations of our four wire aerial, we simply were unable to bring in the signals loud enough to clearly understand them. Fresh batteries were tried to no avail. Nothing but that aggravating noise of the carrier wave and faint unintelligible voice.

Over the Oil Fields

Small clusters of lights appeared now and then which on coming closer developed into typical oil fields long past their boom. No gushing geysers of black gold here—but the steady pump, hiss, pump of the oil derricks. A slight aroma of petroleum floated up to us as we leaned over the basket watching the little isolated clusters pass beneath us. It was indeed, a peculiar feeling that came over us, to watch how quietly and swiftly we floated along with the wind, unobserved by those below, and to realize what a small part we individually play in the whole game.

We were gradually ascending, staying 1000 or so feet above the rising contour of the land. As the night turned to dawn, visibility increased and we were able to make speed observations. You can imagine our joy when we found we were making 40 mi./hr. N 10°E. Clouds lower down had begun forming and it was only occasionally that we spotted earth through the breaks. About 6 o'clock Thursday morning, we dead-reckoned we were a little shy 300 mi. North of San

Antonio. Two pigeons were released about this time, and as we watched them quickly drop to a lower altitude, circle twice and head South for home, we ourselves felt much the same as they—we were homing for Detroit.

The Radio That did not Work

Just before noon the radio was again tackled and although pleaded with, cussed at, fondled and abused, it would give forth nothing but a faint voice—weather information, I believe—but nothing that was to do us any good. This later proved to be partially responsible for our placing fourth.

Afternoon found a change in wind direction to the North-

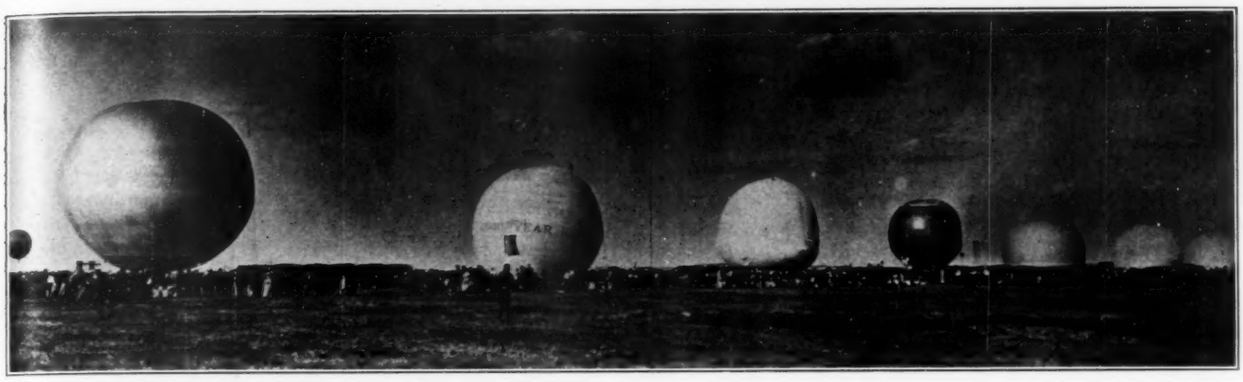


Photo Kadel & Herbert

Start of the National Balloon Race from San Antonio, Tex., April 23, 1924. The winning balloon, Goodyear III (W. T. Van Orman, pilot; C. K. Wollam, aide), is the second big bag from the left

east, at a slightly slower speed. We decided to take this to keep out of stormier conditions. About this time the possibility of a Canadian low pressure coming in along the Northern quarter began to receive consideration by us. It was thought that the low pressure coming down the Rocky Mountain Range could not have turned so abruptly as to be to the North of us. This idea was based on such small evidence, however, that we still considered ourselves on the East side of the mountain low and we pursued our former policy of getting as far East as possible.

A little before 6 p. m. Thursday the drone of a Hispano motor was heard and shortly after a JNH plane rose to our altitude and circled about us. We exchanged greetings and the pilot then headed off to the South. Later, we found out that he reported us playing cards or eating our meal from the central table. Possibly it was the interchange of our binoculars that he saw. His first version, that of card playing, is extremely interesting because it shows the nonchalant way in which we were taking the fact that rain was beginning to fall from deepening storms and that lightning was sparking to the North. Just after this we had a little race with a rain storm which was trying to intercept our path. We successfully passed it, traveling in a fast Southwest wind, while it was traveling in a West wind.

Thursday evening's sunset will long remain in our memory. Within a small distance of the horizon the sun suddenly shone forth in all its glory. The rays passing through the humid air to the West shone as solid red bars of ever-changing hue. The bottoms of the clouds lit up with beautiful purples and reds while an immense rainbow formed in the dark clouds to the East of us.

Running into a Storm

Darkness again, Thursday evening, more and more tired. The lightning continued to strengthen and we decided to go aloft to 15,000 ft. to try out the currents there. Found them to the E.S.E. These being undesirable we returned to a lower level and maneuvered to dodge local storms, both rain and lightening which were forming more and more. By this time we had come to the fallacious conclusion that a storm or low pressure was surely to the North of us. We again, however, rose to 15,000 ft. to verify the winds aloft. This time we had difficulty in making ground observation, but did succeed in getting two Southeast tracks which further falsely convinced us that a storm was to the North of us, blowing out air aloft which would increase in southerly component. The clouds by this time had risen to our altitude and monstrous cumulus thunderheads were spilling over the top. One solid wall of cloud rising to 10,000 ft. seemed to discharge air horizontally for we gradually backed from it. All around grotesque figures were being formed only to be changed again into others. The lightning seemed to be closing in more and more and at one time three strokes on as many sides flashed.

About this time we came to the decision that it would be best to descend and land. Aloft there was apparently only South component winds, below rain and lightning. We therefore valved and came down from 15,000 ft., sighting a fairly large town to the North of us. This later proved to be Dubuque, Iowa. We headed for it until within about 400 ft. above the ground when a surface wind blew us West down a small valley. The drag rope friction on the ground brought us to rest in a lull between storms and directly on the edge of a ravine. The time was just 4 a. m. and not a soul was in sight. Valving to compensate for Rassmussen's weight, he then got out of the basket, ran back to a fence and secured the drag rope. Valving still more for my weight, I got out and we then both pushed the basket up the hill to a more favorable spot.

Here we were just about half deflated when a stroke of lightning hit a lumber yard several miles to the Northeast of us, setting it on fire and causing considerable damage. The rain then burst on us and torrents came down drenching us to the skin. A beautiful end to an otherwise perfect flight.

The trip lasted 34 hr., covering a distance of over 1000 mi. and crossing five states: Texas, Oklahoma, Kansas, Missouri and Iowa.

Conclusions

And now, hindsight being decidedly easier than foresight, it might be well to see what might have been done. First, the radio should have worked. This excellent idea, that Ralph Upson first instituted a few years back, has proven its worth many times. In my own case it would have eliminated the false reasoning or rather guess about the Canadian "Low." We would have known the exact position of the Mountain "Low" and that above the S.E. winds at 15,000 ft. there existed S.W. winds at 20,000 or 25,000 ft.

Second, with altitude as a deciding factor, oxygen should have been carried. Third, it would have been better for a truly record flight for all of us to have worked more East and stayed in front of the "Low," bearing in mind that it is decidedly easier to get into the center of a storm than it is to get out of it, and once in one has the rain and lightning to contend with, all the air going in to the "Low" must come out. It is merely a matter of finding the currents.

We who stay behind this year, can feel justly proud of our Gordon Bennett team, since two of the best civilian teams as well as the pick of the Army Air Service are fighting for us; and as two of them have remarked to me, they intend to bring the cup home.

LIGHT PLANES AND GLIDERS

Edited by Edmund T. Allen

Two Types of the Light Plane

(Continued from last issue)

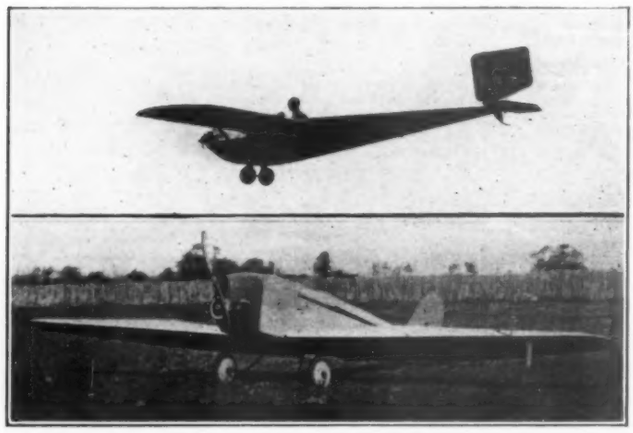
With our present engines, climb is the bugbear of light plane design.

The Parnall light plane is at almost the other extreme of light plane design. Through its designer speaks the other school of thought which believes the monoplane to be the most advantageous and efficient type of light plane construction. The little Pixie is a semicantilever *Tiefdecker* of unusual design throughout. The wings are attached to the lower longeron of the fuselage and are braced to the top longeron by adjustable streamline struts.

The pilot sits above the wing with an excellent view all around except directly below.

Constructional Features

The fuselage is constructed with spruce longerons and warren truss spruce diagonals, glued and nailed together with ply wood gusset pieces. This type of construction has been



English light planes—Top, the Handasyde; bottom, the Parnall "Pixie," both fitted with 750 cu. cm. Douglas engine

found extremely light for structures in which the stress are low. Its simplicity of construction and the absence of wire bracing appeal to the amateur builder and the sportsman pilot.

The wings are tapered in plan form. They are constructed of spruce with the front spar straight and the rear spar raked sharply forward. The aileron spar is hinged to the outer portion of the rear spar, giving to the aileron a forward slant in the plan form. The tail is of steel tube construction, with steel ribs and leading edge. In plan it is triangular, the apex pointing forward. The elevator is of one piece, extending across the whole span of the fixed tail with the control lever operating in the center through the tail post. The rudder is entirely above the tail plane, a form of construction greatly favored in England.

One of the novel features of the Parnall light plane is its landing gear. Rubber shock absorbers have been entirely eliminated, along with all wire bracing. Shocks of landing are taken by the deflection of the axle which at the point of attachment of the wheels overhangs the points of support by a foot or more. The axle is held rigidly by two nickel steel tubes forming an inverted V with the apex at the rear of the pilot's cockpit. From this point the tubes diverge downward and forward, through sockets in the bottom of the fuselage, and thence to the axle. Thus the axle itself is cantilevered on the ends of these two tubes. In practice this type of undercarriage worked excellently.

The same engine is used in this machine as in the Vickers. In the Parnall, however, the Blackburn or the Bristol Cherub are recommended, the direct propeller drive leading in preference.

Two Sets of Wings Supplied

Two sets of wings are supplied for the Pixie, the small wings of 18 ft. span designed for the experienced pilot accustomed to a 45 mi./hr. landing speed, and desiring a high speed of 105 mi./hr. The larger wings of 29 ft. span and 100 sq. ft. area give to the sportsman flying only on occasions, a landing speed of 33 mi./hr. and a top speed of 90 mi./hr. The ceiling for these wings is 18,000 ft.

This machine won the speed race at Lympne and it was considered one of the best light planes at the meet.

These two types, being at almost opposite ends of the possible range of light plane design, give a very fair idea of the technical status of light plane design in England a year ago.

France has produced equally excellent machines, although the French machines used engines of greater cylinder capacity. Belgium has also been very active in the construction of light planes. Some interesting improvements over these machines may be seen in the American meets this fall. And since five aircraft companies are said to be interested in the production of the light plane, it may be available to the public at something less than the cost of these two British machines.

Light Plane Publicity in England

Maj. C. C. Turner writing in the *London Observer* says:

"The light airplane competitions to be held in September for prizes offered by the Air Ministry, the Duke of Sutherland, and Capt. C. B. Wilson, will mark an important stage in the deliberate development, under a body of experts, of a new class of airplane. The glider competitions of 1922 and the light plane competitions at Lympne last year were but preliminaries: practical results are now in sight.

"What has been proved is the possibility of increasing the aerodynamic efficiency of the airplane. This was not a surprise to theorists, but it needed the gliding and light plane experiments to turn theory to practice. The economy of fuel shown by these machines, together with their remarkable performance in speed and height, have lit up for designers paths whose exploration promises to be profitable. It is believed that a way has been indicated to the ultimate development of 5-ton machines with 250 hp. motors to fly at 100 mi./hr. and possessing a gliding gradient (i.e. engine cut off) of 1 in 14, a very attractive proposition from the commercial point of view. Such a machine is not yet possible but types being tested for this year's tests, although the immediate object in view is different, may mark a stage in the development indicated.

"The aim of the Air Ministry is to encourage a training machine for the Royal Air Force which in construction, upkeep and flying costs will economize to the extent of many thousands of pounds, and will speed up the flying lessons of pilot officers. That would be well worth the 3000 pound prize-money; but there are important secondary objects, such as the encouragement of local flying clubs in view."

This frank statement in the news section of one of the large London dailies shows a new interest on the part of the public in flying, an interest that seemed all but dead before the advent of the light plane.

AIRPORTS AND AIRWAYS

Long Island News

The Curtiss Flying School at Garden City has signed on four new students for its course of flying starting May 1. They are as follows: Eugene Pressler, of Philadelphia; Raymond Dore of Smith Mills, Pa.; Benjamin Mendes of the Republic of Columbia; and William J. Ming, of China.

* * *

The spring skies will soon see in flight a number of late Italian military planes, now converted to more peaceful pursuits.

First there is the Ansaldo Ballilla, which the Curtiss Exhibition Co. has refitted with a 160 hp. Curtiss C6 engine for commercial messenger service. In a preliminary test flight, made by Pilot Jim Ray, the machine considerably startled a pilot from Mitchel Field flying a DH4B, when the little ship literally ran away from the big fellow. It is estimated that the top speed of the Ballilla C6 is approximately 135 mi./hr., while the landing speed is very low, somewhere around 40 mi./hr. The ship was originally designed for a 200 hp. S.P.A. engine.

The other unofficial representatives of Italy will be the SVA's belonging to the Aerial Ads Co., which are now being overhauled preparatory to being put into the smokewriting service.

* * *

Air Mail plane No. 338, which is fitted with the Loening wings, (and N struts) has left Curtiss Field for Omaha, where official performance tests will be conducted with it. The wings have a span of 46 ft. and a wing area of 510 sq. ft., as against 42 ft. 4 in. and 440 sq. ft. for the regulation Mail plane.

Flying tests are proceeding with the Aeromarine Mail plane.

* * *

Air Mail plane No. 509, which is fitted with the Bellanca wings, was recently flown to Curtiss Field from points West, and is now at Sperry Field, Farmingdale, where Prof. G. Bellanca is building three additional sets of his wings for the Air Mail Service.

Apart from its special high efficiency wing curve, No. 509 differs from the regulation Mail plane in that the wings are heavily staggered and are braced to each other by only one pair of vertical interplane struts on either side, with two airfoil section bracing members running from the bottom wing roots to the upper ends of the interplane struts. Owing to this type of bracing the ship can be flown either as a monoplane or as a biplane. In the latter form the total lifting area is 650 sq. ft., including the surface of the inclined struts, although, due to interference and the angle at which they attack the air, these struts probably do not lift anything like the wings per unit of surface.

* * *

The private flying boat which is under construction near Mitchel Field for Harold S. Vanderbilt is progressing satisfactorily. The framing and bottom plating of the hull has been completed, and the rest of the hull work is now being taken in hand. Construction has also started on the wings.

Parachutes for Civil Aviation

In view of the constantly growing use of parachutes in civil aviation, be it for air transport or exhibition purposes, considerable interest attaches to the parachutes manufactured by the Hardin Parachute Co., Inc., of Minneapolis. The Company produces two types of parachutes: the Life Pack and the Exhibition Chute.

The Hardin Life Pack is built of Japanese silk, and has twenty-eight shroud lines that extend from the vent at the top through the silk to the harness at the bottom. The pack itself is made of very strong waterproof canvas, thoroughly reinforced. On the inside is the patent device for throwing the chute away from the pack. This device, consisting of a strong fiber board, to which powerful ejection springs are attached, is built into the pack and cannot possibly become entangled in the parachute. The releasing lock is built of steel and is protected against accidental opening by a safety device. The harness is made from cotton webbing and fitted with steel rings and adjustable buckles so that it can be fitted to anyone and taken off in a moment.

The ejection springs form the base of the pack. These springs are held in position by a set of releasing rods until parachute is folded and packed, and the releasing lock is adjusted. When the releasing rods are withdrawn, the entire force of springs rests against parachute, which is literally thrown away from the body when releasing cord is pulled. At the edges of each of the four flaps or folds of the pack are fastened strong elastic cords. These cords are pulled taut when folds are held in position by releasing lock. When lock is opened by pulling the releasing cord these elastics jerk the folds out of the way so that the chute can fly out under the force of the ejection springs.

The releasing cord is so strong that no pull can break it and is also protected so that it cannot be accidentally opened. The cord is run over the right shoulder through a tube, and to the pulling end is attached a 3-in. iron ring, which is easy for the wearer to locate, grab and pull.

The life chute folded into the pack and attached to the harness, ready for use, weighs but 15 lb.—the lightest aerial safety device made.

The Hardin Life Pack has been put to the severest tests that it is possible to give a parachute and has proven highly successful.

The Hardin Exhibition Chute, which is built in any type furnishing from one to ten drops, differs from the Life Pack in that it is devoid of springs, as the weight of the operator hangs from the Exhibition Chute before it is released.

Hardin Life Packs and the Exhibition Chutes are successfully used by numerous commercial aviation concerns and by such well known parachute jumpers as Peter Devlin, and Clyde Horchem, among others.

Kansas News

Garver's Flying Circus, with flying fields at Attica and Belleville, Kans., is now lining up its exhibition campaign for the 1924 season. Last year this flying outfit put on about 80 exhibitions for Chambers of Commerce, American Legion Posts, Fair Associations and others. They have got out an attractive booklet of 20 pages which is well illustrated with photographs of their personnel and equipment, and contains numerous testimonials from organizations for which they have worked.

The slogan used in the booklet, "We have flown over 500,000 mi. and never had an accident," indicates the excellent quality of the personnel and equipment used by this organization. Their planes include a Waco Six and Laird Swallow. The five members of the organization are: K. R. Garver, owner of the Circus and stunt flier; Wayne Neville, stunt flier; Ruth Garver, parachute jumper; Paul Duncan, aerial acrobat.

New Seaplane Record

The Contest Committee of the N.A.A. has received official notice from the International Aeronautic Federation (F.A.I.) that a new world record has been established as follows.

Class C-1 Seaplanes, with useful load of 250 kilograms.

Altitude—(France) J. F. Laporte, FBA seaplane, Hispano 180 hp. engine, at Argenteuil, France, March 24, 1924. Record: 3,760 m. (12,336 ft.)

Mobile, Ala., on Air Map

Mobile, Ala., has at last leaped into the limelight of aviation, and has aroused the interest and sentiment of her population to the point where they think, talk, and actually engage in aviation quite extensively.

Through the efforts of the Mobile Chamber of Commerce and the local post of the American Legion, an excellent landing field just on the edge of the built-up section of the city, and only 2 mi. from the heart of the business district, was provided by a generous and patriotic citizen, Harry T. Smith. By means of labor donated by city and county authorities the plot was put in excellent condition to receive planes of all types in all kinds of weather.

The field—known as Legion Field—is 1,200 ft. North and South, the direction of prevailing winds, both summer and winter, and 900 ft. East and West, and is joined in the East by an auxiliary emergency field 1,200 ft. square. This field, however, will be used only in emergency until further labor has perfected its drainage system and made it adaptable in all kinds of weather.

From the date the field was first opened to air traffic, large numbers of planes from all parts of the country have availed themselves of its advantages. Training planes from the Naval Air Station at Pensacola, Fla., are using the field as a terminus for their cross-country students.

During the Mardi Gras Carnival, celebrated in Mobile from Feb. 29 to March 4 the American Legion staged an aerial circus on Legion Field. In this circus, the army from Maxwell Field, Montgomery, Ala., entered four DH4 planes and one Martin Bomber; the National Guard Squadron from Birmingham, Ala., entered four Curtiss training planes; the Naval Air Station at Pensacola, Fla., entered two Curtiss and one Vought ship, and the Aero Photograph Co., of Kansas City, Mo., entered two ships. During the meet, six Standards from Houston, Tex., one "Petrel" from New York, and a DH6 from Tampa, Fla., visited the field.

Fifteen thousand people witnessed the first day's performances, which consisted of formation flying by the various service groups and stunt flying of the training ships, exhibition flying by the Martin Bomber, a 60-mi. race around a closed triangular course of 5 mi., wing-walking exhibitions, and a parachute jump.

Plans are now under way to continue improvements on the landing field, including the establishment of a fuel station.

Twin Cities Work for 1925 Races

Plans to make the Twin Cities, St. Paul and Minneapolis, the site of the International Air Races in 1925 will go on steadily henceforth, according to newspaper dispatches from these progressive cities of the Northwest. The following editorial from a recent issue of the *Minneapolis Tribune,* displays a commendable spirit which means much for the progress of the art of flying:

"It is regrettable that the Contest Committee of the National Aeronautic Association could not see its way clear to schedule the Pulitzer International Air Races for the Twin Cities in 1924, but the disappointment should not be taken too deeply to heart.

"Those of Minneapolis and St. Paul who rendered such zealous service in trying to obtain the big meet for these cities and the Northwest have made the whole metropolitan community their debtor. They will now have a year in which to provide a stage for the races, which will make it the irresistably logical choice of the committee for the 1925 contests.

"There is, of course, no question about Dayton's ability to offer adequate facilities for the races. Due to the activities of the Wright brothers and others, the Ohio city has been for twenty years a live center of active aeronautics. This latter by the way, was one of the reasons why representatives of the Twin Cities felt that the next air tourney should be held here. Great interest in aviation has been developed in these parts but we need the further stimulus in this interest which the International Races would furnish.

"The year 1925 is not far away as the lives of great cities and the developments in aviation go. It will require no great effort to keep the 1925 goal in sight and to try for a touchdown a year hence. The Twin Cities may be disappointed, but they have no reason to be discouraged."

Battle Creek, Mich., Wants Airport

Public-spirited citizens of Battle Creek, Mich., have organized an association to provide a landing field. It is planned to purchase 140 acres of land. Eighty acres are to be used for the landing field and the remainder cut up into lots. A lot will be given to each purchaser of a share of the landing company's stock. The field is situated only 3 mi. from the business center of Battle Creek, on a paved highway.

Sponsoring the movement is the Battle Creek Aero Club, of which Luton Knowles is president. The proposed landing field also has the approval and backing of the Battle Creek Chamber of Commerce and it is said that many influential men of the city are interested in the proposition.

Directors of the aviation field association are: Martin W. Wentworth, steward and purchasing agent of the Battle Creek Sanitarium; Fred Zimm, major in aviation service during the World War; Berner W. Main, attorney; Earl R. Marvin, cashier Old National Bank; John I. Gibson, secretary, Chamber of Commerce; Peter Goff, lieutenant in aviation service during the war; Burt H. Welch, D. L. corps.

In response to an invitation from the Battle Creek Chamber of Commerce, Rear Admiral W. F. Fullam will probably address citizens of that city in the near future and exhibit the film "Make America First in the Air."

Eighteen Balloons in G. B. Race

This year's international balloon race for the James Gordon Bennett Cup, which will be held June 15 at Brussels, Belgium, has received eighteen entries, as follows: Belgium, three; France, three; Great Britain, two; Italy, two; Spain, three; Switzerland, two; United States, three.

The crews for some of the entries have already been designated. The Belgian balloons will be piloted by Ernest Demuyter, winner of the Gordon Bennett race in 1920, 1922 and 1923; Lieutenant Labrousse, who was Demuyter's aide in 1920 and also participated in the 1921 and 1922 races; and A. Veenstra, who was Demuyter's aide in 1921 and 1922, and who finished second in last year's race.

The French team will consist of Maurice Bienaimé, Fernand Laporte—who is also a well known seaplane pilot—and Georges Cormier. Georges Blanchet and Victor Denis are alternate pilots.

The Swiss team will consist of Col. Paul Armbruster, and of Captain Ansermier. Both pilots participated in several Gordon Bennett races, Colonel Armbruster winning the 1921 contest.

New Airship Promotion Concern

According to newspaper reports, a new airship promotion concern, the Aircraft Construction & Transportation Co. has taken over the assets of the Connecticut Aircraft Co. of New Haven, Conn. The latter firm built during the war a few small nonrigid airships for the U. S. Navy. No airships were since produced by this firm, a Navy contract for C class airships having recently been transferred to the Goodyear Tire & Rubber Co. of Akron, Ohio.

New Altitude Record

A new altitude record of 8,980 m. (29,462 ft.) carrying 250 kg. useful load for Class C airplanes was established by Lt. Harold R. Harris, A.S., on March 27 at McCook field, Dayton, Ohio. Lieutenant Harris used a TP1 airplane equipped with 400 hp. supercharged Liberty engine.

This record has been admitted by the N.A.A. Contest Committee as an American record, and inasmuch as it exceeds the present world's record of 8,466 m., it has been transmitted to the F.A.I. for homologation as a new world's weight carrying altitude record.

F.A.I. Timers Named for U. S,

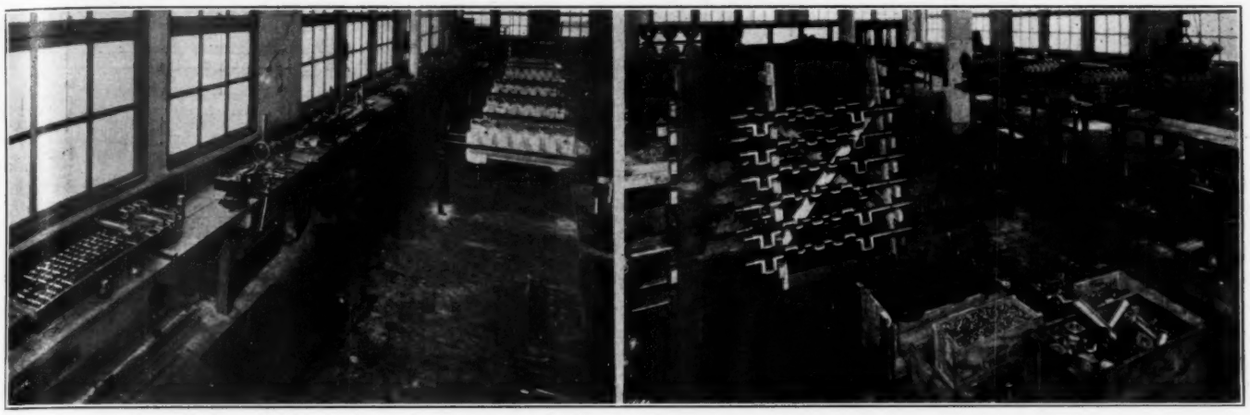
Eighteen names are carried on the official list of F.A.I. Timers for the United States this year.

The timers named by the N.A.A. Contest Committee are: F. P. Lahm, Odis A. Porter, Harry H. Knepper, L. M. Woolson, Luzern Custer, Kenneth M. Lane, Floyd L. Kelso, Roy Langham, H. Taylor, Porter H. Adams, Alonzo de Jessop, Edwin M. Cooper, C. C. Culver, R. A. Leavell, M. C. Pfefferkorn, C. F. Schory, B. Russell Shaw, and R. A. Leavell.

New Liberty Engines on Market

Operators of commercial aircraft will be interested to learn that new Liberty engines, embodying all the latest improvements, are now available for private use. As is generally known, it has been very difficult in the past to secure such engines on account of the Government's policy not to release to private customers any of its war stock of 12,000 unused Liberty engines. As a result, private purchasers could only acquire used Liberty engines at Government sales, in addition to a few engines assembled from parts sold by the Government.

This handicap to private aircraft operators has now been overcome by the Johnson Motor Products, Inc. of 518-522 W. 57th St., New York City. H. Alex. Johnson, who heads the company, for over thirty years has been building internal combustion engines. During the war he was a manufacturer of submarine engines, metal life boats, shells, and had just got into production on an order for Diesel engines when the Armistice was signed. Last January, having decided there was a good commercial demand for new Liberty engines, he secured, through his connections in the automotive industry, from several companies who produced Liberties during the war, their entire stocks of new parts, including ignition, which had not been turned over to the Government. From these parts Liberty engines are now being assembled.



Two views of the plant of the Johnson Motor Products, Inc., showing new Liberty engines in various stages of assembly and stocks of spare parts

Before assembly, all parts must accord with the exact tolerances called for in Government specifications. Each completed engine is submitted to a 3 hr. running test on the block. If the engine does not satisfactorily pass the block test it is taken down and thoroughly gone over, and no engine is shipped which has not finally passed inspection and test as severe as any imposed by the Government.

The Johnson Liberties include all improvements called for by the Army Air Service, such as heavy gears, new oil pump, keyed ball retainers, bronze water pump spindles, carburetors with new altitude adjustment and inspection holes on gears. Johnson is now developing a new block cylinder type which will be interchangeable with the standard Liberty cylinder.

The capacity of the Johnson plant is seven Liberty engines a week.

Atlanta Wants Municipal Airport

Public spirited citizens of Atlanta, Ga., are starting a campaign to have their city establish a municipal airport. As a site for this purpose the Air Service has approved a portion of the old stockade property, owned by the city and lying but 3 mi. from the business center. This tract needs only to be graded to serve well for a landing area and airdrome. Such improvement will be of negligible cost, as most of the work can be done by prisoners at the city's or county's disposal.

So it becomes possible, without resort to the public treasury, to provide a convenience of which Atlanta is greatly in need and a prolonged want of which will lay her at grievous disadvantage. The Georgia School of Technology, one of the eight educational institutions having an Air Service unit, is now under necessity of sending its students in that department to Maxwell Field at Montgomery, Ala., for certain practical training not to be had in the capital of Georgia. Moreover, Atlanta is headquarters of the Fourth Corps Area of the Army for the eight Southern States, and, in a crisis these headquarters would require a landing field to function with the Air Service. More than thirty-five officers of that service are located in Atlanta, as members of the Organized Reserve Corps.

The Boeing B1 Flying Boat

The Boeing B1 Flying Boat is still giving good service on the Air Mail Route to Victoria, British Columbia. This boat was constructed by the Boeing Airplane Co. in 1919, specifically for the service in which it is being used. A Liberty 12 has been substituted for the original Hall-Scott 200 hp. engine, with the result that the ship gets away with a much larger load and has a high speed of 115 mi./hr.

This boat has the following characteristics:

CHARACTERISTICS OF THE BOEING B1 FLYING BOAT

Span:	
Upper	50 ft. 3 in.
Lower	37 ft. 7 in.
Chord:	
Upper	78 in.
Lower	69 in.
Incidence	4 deg.
Mean gap	7 ft. 6 in.
Stagger	12 in.
Weight empty	2900 lb.
Disposable load	1525 lb.
Gross weight	4425 lb.
Wing loading	9.0 lb./sq. ft.
Engine	400 hp. Liberty 12
Total wing area	492.0 sq. ft.
Performance:	
High speed	115 mi./hr.
Low speed	53 mi./hr.
Rate of climb	900 ft./min.
Service ceiling	15,000 ft.
Absolute ceiling	17,000 ft.
Time to service ceiling	45 min.

This boat was purchased from the Boeing Airplane Co. by Ed Hubbard, Seattle's veteran pilot, under whose hands the B1 has flown a total of 1300 hr. Included in this time are 420 round trip flights to Victoria with the air mail.

Credit where Credit is Due

Roland Chilton, chief engineer, Motor Division, Aeromarine Plane & Motor Co., calls our attention to the fact that the Fly-Wheel Starter which was recently tested at the Engine Testing Laboratory in the Washington Navy Yard, was developed exclusively by the Motor Division of the Aeromarine Plane & Motor Co., who control the rights to this type of starter.

The starter which was tested at Washington was built on a Navy contract, under which performance was guaranteed.

Personals

E. Van Hambach, consulting engineer of Chicago, has severed his connections with Fred Parker of St. Anne, Ill., and is now looking after his own interests.

UNITED STATES AIR FORCES

U. S. ARMY AIR SERVICE

Army Orders

Sec. Lieut. Ray H. Clark, A.S., Kelly Field, to Fort Bliss.

First Lieut. Albert W. Stevens, A.S., McCook Field, to 88th Obs. Sq., Wilbur Wright Field, effective after four months' leave from April 17, with permission to leave continental U.S.

First Lieut. Paul H. Leech, A.S. (Q.M.), relieved detail A.S., Kelly Field, to report C.O., Q.M.I.D., Camp Normoyle, for duty with Third Motor Repair Battalion.

One month's leave to First Lieut. Edwin R. McReynolds, A.S., on arrival in U.S.

Sec. Lieut. John Hensel Pitzer, A.S., Brooks Field, to Coast Artillery Corps, Hawaiian department, Honolulu, transport sailing San Francisco June 3.

Maj. Frank R. Borden, M.C., Fort Sam Houston and temporary duty at School of Aviation Medicine, Mitchel Field, to Langley Field, after leave granted.

Two months' leave to First Lieuts. William S. Gravely, A.S. and Harry A. Johnson, A.S., on arrival in U.S.

Maj. Barton K. Yount, A.S., appointed to board, meeting April 15 at War department, Washington, for preparation instruction programs for various correspondence courses.

Orders Jan. 15, directing First Lieut. William V. Andrews, A.S. and Sec. Lieut. Ralph A. Snavely, A.S., to sail for Philippine Islands on transport leaving San Francisco July 19, amended directing these officers to sail on transport leaving that city Aug. 1.

So much of orders Feb. 11 relieving Sec. Lieut. Cornelius E. O'Connor, A.S., from Kelly Field effective June 17 amended relieving this officer June 12, and so much directing him sail for Philippine Islands on transport leaving San Francisco July 19 amended directing him sail Aug. 1.

Orders Jan. 12 relieving First Lieut. Frederick von H. Kimble, A.S. from Kelly Field June 1 and directing him sail for Philippine Islands by transport leaving San Francisco July 19 amended relieving this officer from Kelly Field May 27 and directing him sail from San Francisco Aug. 1.

Orders Jan. 12 relieving Sec. Lieut. Hugo P. Rush, A.S., from duty Kelly Field July 1 and directing him sail for Philippine Islands on transport leaving San Francisco July 19 amended relieving this officer from Kelly Field July 20 and directing him sail from San Francisco Aug. 1.

Orders Jan. 15 relieving Sec. Lieut. Hilbert M. Wittkop, A.S., from Kelly Field effective June 3 and directing him sail for Philippine Islands on transport leaving San Francisco July 19 amended relieving this officer from Kelly Field June 14 and directing him sail from San Francisco Aug. 1.

Orders Jan. 12 relating Sec. Lieut. Alfred A. Kessler, jr., A.S., amended as follows: Lieutenant Kessler, relieved from Kelly Field, effective July 13, to proceed San Francisco, after leave granted, and sail for Manila Aug. 1 for duty with A.S., Philippine department.

Orders Jan. 12 relating Sec. Lieut. Orval R. Cook, A.S., amended as follows: Lieutenant Cook relieved from Kelly Field, effective July 7, to proceed San Francisco, after leave granted, and sail for Manila Aug. 1 for duty with A.S., Philippine department.

Orders Jan. 12 directing Sec. Lieuts. Benjamin W. Chidlaw, A.S., Mervin E. Gross, A.S. and James W. Spry, A.S., sail for Philippine Islands from San Francisco July 19 amended directing these officers sail Aug. 1 from San Francisco.

First Lieut. John W. Monahan, A.S., Mitchel Field, after leave granted from May 10, to A.S., Philippine department, Manila, transports sailing from New York City and San Francisco July 12 and Aug. 1, respectively.

Two months fifteen days' leave to Maj. Harold Geiger, A.S., from Jan. 22, confirmed.

Primary Flying Students Graduate

During the first week in April the following student officers undergoing primary flying training at Brooks Field, finished their course and received orders to proceed to Kelly Field for advanced training:

Capt. Harry H. Young, Sec. Lieuts. Noble P. Beasley, Hugh W. Downing, Dean S. Ellerthorpe, James M. Fitzmaurice, Charles W. Gettys, Harvey K. Greenlaw, Glen C. Jamison, Alfred O. Johnson, Charles W. Lawrence, Birney K. Morse, Harry T. Rowland, William L. Scott, Benjamin Stern and Morris K. Voedish.

All of the above officers are assigned to the Air Service with the exception of Lieutenant Greenlaw, an Infantry officer.

Fast Flight from Nashville to Fairfield

What is believed to be a record flight for a DH airplane was made on March 29 by Lieut. Vincent J. Meloy, A.S., on duty as Instructor with the Air Service, Tennessee National Guard, and Lieutenant Williams, Commanding Officer of the Photo Section. These two officers flew from Nashville, Tenn. to Fairfield, Ohio, in 1 hr. 50 min. The distance from Nashville to Fairfield is several miles longer than that between Buffalo and New York.

U. S. NAVAL AVIATION

Lakehurst Aerial Demonstration

The aerial demonstration to be held at the Naval Air Station at Lakehurst, N. J. on May 31 is expected to attract thousands of visitors to the station, and extensive preparations are in progress to make the event a notable success. The cooperation of Marine Corps and Naval heavier-than-air units have been elisted to give a varied and all embracing character to the demonstration, which will include also the lighter-than-air activities centered around Lakehurst.

The exhibits will include movies, airship engine, airship structural work, gas cells, photographs, mooring mast, weather observatory and three bands. The tentative program of events follows.

10.00 Aerological kite up.
10.30 Kite balloon—parachute jumping.
11.00 Bombing by airplanes, followed by attack on machine gun nests by Marines.
11.30 Non-rigid "Navy J1" takes air.
11.35 Free balloon takes off.
12.00-1.00 Bands.
1.00 Shenandoah leaves mast, circles field, accompanied by escort of planes.
1.30 Shenandoah moors.
1.50 J airship picks up man without landing.
2.00 Formation flying, five plane squadron.
2.10 Stunt formation, 3 Voughts (Lt. Al. Williams, U.S.N.) (Lt. D. Rittenhouse, U.S.N.)
2.22 Bubble chasing, two planes.
2.37 Dog fight, two Voughts.
2.45 Bombers attacked by fighting planes.
2.57 Parachute race.
3.05 Aerial smoke screen.
3.20 Hopping balloons, 5000 cu. ft.
3.35 J airship lands, put in hangar.
3.55 Combined bands at hangar. (Star Spangled Banner)
4.00 or later. Shenandoah to hangar.

Control of Homing Pigeons

The Bureau of Aeronautics will assume control of the operation of the homing pigeon service. A General Order will be issued to change this activity from the cognizance of the Office of Naval Operations to the Bureau of Aeronautics.

Koontz Wants More Carriers and Planes

Following the report of Admiral Coontz, Commander in Chief of the U. S. Fleet, on the inability of the U. S. Fleet to maneuver as a unit at a standard speed during the recent winter maneuvers, it is understood that recommendations remedying conditions filed with the Secretary of the Navy, will soon be considered by him. They include the construction of aircraft carriers and the increase of planes to bring the fleet up to the full 5-5-3 standard.

Stating that the value of airplanes was fully realized as fighting adjuncts of the fleet, Admiral Koontz pointed out that there were serious deficiencies in the numbers and types. He also recommended the modernization of old battleships, the equipment with improved plane-launching catapults of battleships and cruisers, and that complete anti-aircraft batteries including machine guns with high elevations be supplied.

One aircraft carrier, the Langley, he reported, was supposed to carry 58 planes, but had only six, which, however, served well. The air squadrons of the Atlantic or Black forces, had 27 seaplanes which proved useful when operated from a base, it is reported, but greater operation from the carrier is recommended. The catapults of the Capital ships were not working well, it is explained, and therefore the Langley was the only vessel to send up planes from her deck. Until it is successfully demonstrated that planes can be operated from decks of battleships and cruisers, as now carried, at sea, it is believed premature to alter or rearrange any other combattant ships for the installation of launching devices.

For night flying, arresting gear and other material requirements are desired, Admiral Koontz stated. Aircraft carriers should have separate radio receiving rooms so as to permit duplex operation with planes in the air, while regular radio messages are being transmitted.

The construction of the two carriers building was urged, among many other recommendations for the perfection of the fleet.

Naval Air Orders

Comdr. Wilbur R. VanAuken, det, Nav. Academy, Annapolis, Md.; to command U.S.S. Aroostook.

Lieut. Brady J. Dayton, det. U.S.S. Shawmut; to Navy Yard, Phila., Pa.

Lieut. Nicholas A. Brown (SC), det. Nav. Air Sta., N.O.B., Hampton Rds., Va.; to U.S.S. Chaumont.

Lt. (jg) Robert F. Batchelder, (Supply Corps), det. U.S.S. Chaumont; to nearest rec. ship.

Lt. (jg) Harold T. Smith (SC), to Naval Air Station, N.O.B., Hampton Roads, Va.

Lieut. Thomas B. Lee, det. Nav. Air Sta., Pensacola, Fla.; to Aircraft Squads, Scouting Flt.

Gun. George W. Almour, det. U.S.S. Langley; to Nav. Air Sta., Lakehurst, N. J.

Lieut. Hugh S. Sease, det. Torp. & Bombing Plane Squad. 1, Aircraft Squads, Scouting Fleet.; to Nav. Air Station. Pensacola, Fla.

Lieut. Howard F. Councill, det. Nav. Air Sta., Anacostia, D. C., to Bureau Aeronautics, Navy Dept.

Lt. Cdr. Hugh C. Fraxer, det. Aircraft Squads., Battle Flt.; to Nav. Air Sta., Pearl Harbor, T. H.

Lieut. Ceeil F. Harper, det. Aircraft Squads, Battle Flt.; to Nav. Air Sta., Pearl Harbor, T. H.

Lieut. Adolph P. Schneider, det. Aircraft Squads., Battle Flt.; to Nav. Air Sta., Pearl Harbor, T. H.

Lt. (jg) Vilas R. Knope, det. Aircraft Squads., Battle Flt.; to Nav. Air Sta., Pearl Harbor, T. H.

Lt. (jg) John B. Lyon, det. Aircraft Squads., Battle Flt.; to Nav. Air Sta., Pearl Harbor, T. H.

Lt. (jg) Earle C. Peterson, det. Aircraft Squads., Battle Flt.; to Nav. Air Sta., Pearl Harbor, T. H.

Lt. (jg) William J. Walker, det. Aircraft Squads., Battle Flt.; to Nav. Air Sta., Pearl Harbor, T. H.

Lt. (jg) Clarence V. Conlan, det. Nav. Air Sta., Pensacola, Fla; to temp. duty Rec. Barracks, Hampton Roads, Va.

Lt. (jg) Bailey Connelly, det. Nav. Air Sta., Pensacola, Fla.; to temp. duty Rec. Barracks, Hampton Roads, Va.

Aircraft Squadrons Finish Fleet Maneuvers

On the conclusion of the Fleet maneuvers held in southern waters during the past four months, the following radiogram was sent from the Commander, Scouting Fleet, to the Commander, Aircraft Squadrons, as a testimonial of the successful operations of the air units in their cooperation with the maneuvers of the Fleet:

"On temporarily parting company Commander, Scouting Fleet wishes every one in the Air Squadrons to know his appreciation of their efficient work during the past four months. Every character of work that aircraft might be called upon to do they have done; long distance flying, night flying, scouting, reconnaissance, photographic work, mapping, bombing, torpedo recovery, routine mail and passenger trips and rescue work. All has been done well, willingly and cheerfully with instant readiness, and without any serious accident. Commander, Scouting Fleet congratulates Commander, Aircraft Squadrons on the high spirit and efficiency of his squadrons and hopes to have them with him soon again."

Commander Bartlett to Explore Arctic

The Arctic exploring expedition that the National Geographic Society is sending north this summer under the command of Lieut. Comdr. Robert A. Bartlett, U.S.N.R.F., will have the use of Navy aerological equipment. Commander Bartlett, who is at present on an active duty status in the Bureau of Aeronautics, will leave Seattle on the U.S.S. Bear, a Coast Guard vessel, about May 12, and will remain in the Arctic for the major part of the summer, obtaining data and specimens of Arctic flora and fauna for the National Geographic Society. Commander Bartlett will command the expedition in his private capacity and not as a Naval Officer. As the results of his work will be of great value to the entire scientific world, including the Navy, a shipment of Navy aerological material has been ordered to be sent to the U.S.S. Bear, as a loan to the Coast Guard, for the use of the expedition.

Commander Gherardi Aid to Secretary Wilbur

Secretary of the Navy Wilbur has selected Capt. Walter R. Gherardi, U.S.N., to be his aide in place of Capt. Hayne Ellis, who has been assigned to command the cruiser Rochester. Captain Gherardi is in command of the Air Squadrons, Scouting Fleet. He will be relieved by Capt. H. E. Yarnell, now commanding the naval air station at Hampton Roads, Va.

CALENDAR OF AERONAUTICAL EVENTS

March 25.	Start of the British World Flight, Southampton, England.
April 6.	Start of World Flight of the U. S. Army Air Service, Seattle.
June 3-11.	International Aircraft Expositon, Prague, Czechoslovakia.
June 15.	Gordon Bennett International Balloon Race, Brussels, Belgium.
June 21.	Annual F.A.I. Conference, Paris, France.
June 22.	Commodore Beaumont International Cup Race for high speed airplanes, Istres, France.
July 5-6.	Zenith International Airplane Efficiency Race, Paris, France.
August.	"Tour de France des Avionnettes." International Round-France race for light airplanes.
Oct. 2-4.	International Air Races, incl. Pulitzer Trophy Race, Dayton, Ohio.
Oct. 24-25.	Schneider Cup Race, Baltimore.
Dec. 17.	Twenty-first anniversary of the first successful airplane flight.

BACKFIRES

The following candidate is proposed for the Grand Prize of Aeronautical Misinformation, 1924:

L'Aero-Sports, Paris.

Citation:

"Published in its issue of March 25, 1924, a photograph of the Glenn Martin MO1 Naval Observation Plane with a caption describing it as 'the Nordman Glider, on which Arthur Heinrich proposes to make a new world's altitude record for gliders.'"

* * * *

Prophetic foresight of a threatening calamity, as reported from Washington, D. C., April 4:

"Washington, April 4.—Selection of flying fields for joint use of the Army and Navy ultimately would result in a combination of the Air Services, Capt. D. H. Seaton of the Army today told the House Naval Committee at a hearing on the subject.

"Captain Seaton opposed combining the services."

* * * *

A scientist, after forty-six years of study, claims to have discovered the principles of propulsion used by grasshoppers and crickets. According to him, these insects do not fly at all, but using their powerful hind legs, they hurl themselves into the air, spread their wings and allow themselves to be carried by air currents.

The newspaper quoting this stupendous revelation suggests that it may have great influence on the development of heavier-than-air craft. Indeed, it would be thrilling to watch, say, a Martin Bomber double upon its rear landing gear struts, hurl itself into the air and spread its wings.

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CENTRAL SALES OFFICE
Navy Yard : : Washington, D. C.

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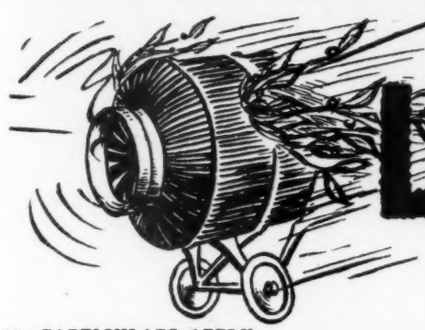

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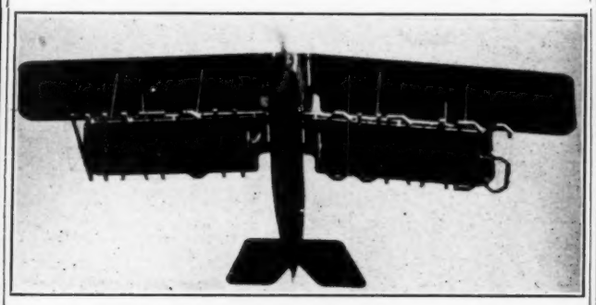

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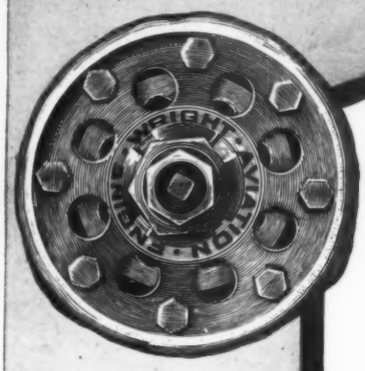

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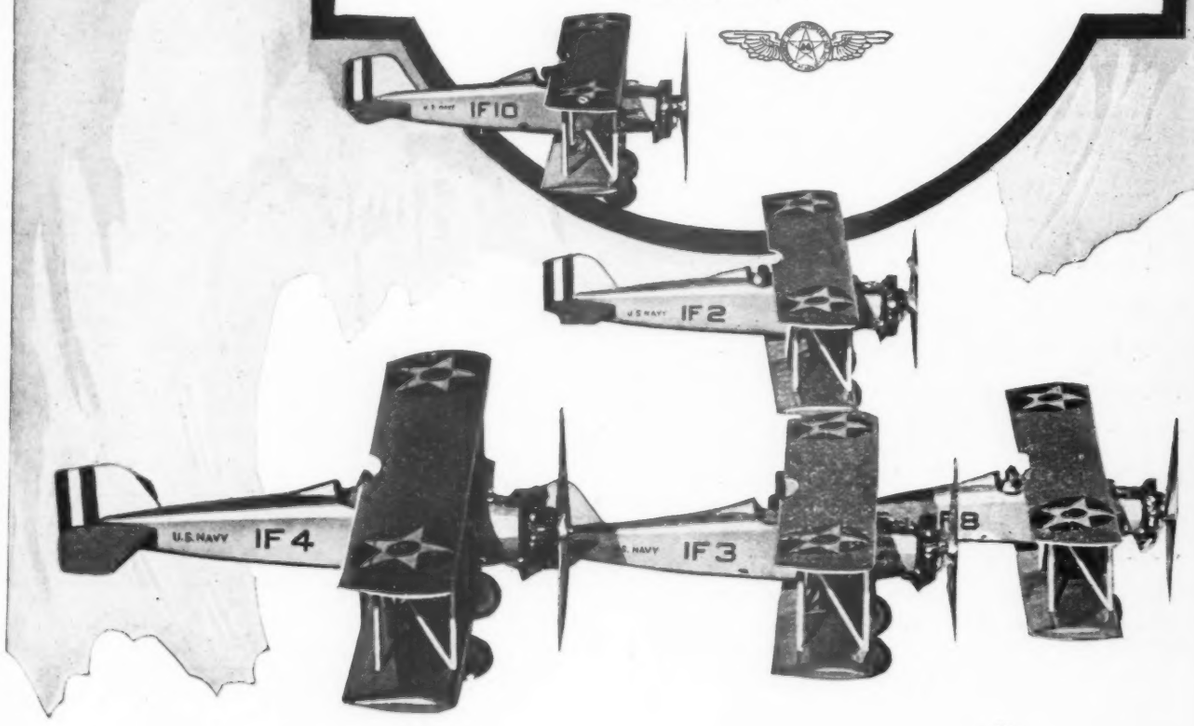

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